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Annals

ANNALS

OF

THE ASTRONOMICAL OBSERVATORY OF HARVARD COLLEGE.

VOL. X.

OBSERVATIONS

MADE WITH THE MERIDIAN CIRCLE DURING THE YEARS 1871 AND 1872,

UNDER THE DIRECTION OF THE LATE

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BY

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PRINTED FROM FUNDS RESULTING FROM THE WILL OF

JOSIAH QUINCY, JUN.,

WHO DIED IN APRIL, 1775, LEAVING A NAME INSEPARABLY CONNECTED WITH THE HISTORY OF
THE AMERICAN REVOLUTION.

CAMBRIDGE:

PRESS OF JOHN WILSON AND SON.

1877.



P R E F A C E.

THIS volume contains the first portion of the work with the new Meridian Circle under the direction of Professor WINLOCK. The observations were made by Assistant Professor WILLIAM A. ROGERS, aided by Mr. AUGUSTUS MCCONNEL. Professor Rogers has also superintended their entire reduction, and has prepared this volume. The skill of the observer and excellence of the instrument are shown by the probable errors given on page lxxv. From this it appears that the probable error of a single observation of the declination of a star in the zenith, from a reading of two microscopes, is $\pm .''48$. The probable error of a single measurement of right ascension is $\pm .^s024$. All the work is differential, the preliminary catalogue of the Gesellschaft being taken as a standard. An independent determination of the proper motions has been made by comparing the results of twenty-seven different catalogues. They were selected so as to form four groups, having as mean dates about 1755, 1800, 1837, and 1870. The systematic errors in right ascension and declination were first eliminated by bringing all these catalogues forward to 1875, and comparing the results. To the analytical investigation of this problem by Professor Rogers, I have appended a graphical discussion of the residuals in declination on pages lvi to lxiii. The existence of systematic errors in the standard catalogue is thereby rendered probable. This does not sensibly affect the proper motions, and, if established, a correction can be easily applied to the present catalogue.

The observations and reduction of the catalogues of 1867 and 1868 with the old Transit Circle have been made by Mr. E. P. AUSTIN.

EDWARD C. PICKERING,

Director of the Harvard College Observatory.

CAMBRIDGE, U. S., *March* 29, 1877.

PREFACE BY THE EDITOR.

THE Meridian Observations undertaken by Professor WINLOCK are classified as follows:—

1. A General Catalogue of stars in Right Ascension, observed with the old Transit Circle of Harvard College Observatory during the years 1867 and 1868.

The stars of this catalogue were selected with special reference to filling up the gaps in the list given in the American Ephemeris, and thus facilitating the longitude work of the United States Coast Survey. The series contains 5000 observations.

2. A Catalogue of 8300 zone stars, situated between the limits of $49^{\circ} 55'$ and $55^{\circ} 10'$ north declination, observed with the new Meridian Circle in accordance with the programme of the "Astronomische Gesellschaft."

This series was begun in November, 1870, and 14600 observations had been made at the time of the death of Professor Winlock, in June, 1875.

3. A General Catalogue of stars observed with the new Meridian Circle during the years 1871 and 1872.

The stars of this catalogue are, in general, identical with those observed in 1867 and 1868. A few stars were omitted from the working list, and a few were added in order that it might contain as far as possible all the stars of the list given by Argelander in the "Astronomische Nachrichten," No. 1719. It contains 564 stars, of which 289 are found in the list furnished by the "Gesellschaft" for the reduction of the zone observations. This series contains about 4000 observations.

4. A Polar Catalogue of stars observed with the new Meridian Circle during the years 1872 and 1873.

The working list of this catalogue, contains 373 stars, of which 148 are situated beyond 60° north declination. The fundamental stars required for the reduction of the polar stars are identical with those required for the reduction of the zone observations. The series contains 3900 observations.

5. A General Catalogue of stars observed with the new Meridian Circle during the years 1874 and 1875.

The stars of this catalogue are the same as those observed in 1871 and 1872. It was Professor Winlock's first intention to delay this work till about 1880; but the

systematic deviation of the right ascensions of stars having large south declinations, from the values given by the Greenwich and the Washington observations, as shown by the preliminary reductions, induced him to reconsider this purpose. It is hoped that this series of observations will decide how far this deviation, the maximum value of which is about one-tenth of a second of time, may be due to the instrument with which they were made. As far as possible, an equal number of observations of each star was made with the Circle in opposite positions. The completed series contains about 6500 observations.

The present volume contains the observations of the General Catalogue of 1871 and 1872, and the results only, of the observations made with the old Transit Circle. It should be added that many fundamental stars were observed, especially during the earlier part of this series, which will more properly find their place in connection with the zone observations.

In the preparation of this volume, I have endeavored to carry out the plans of Professor Winlock with fidelity, both in the methods of observation and reduction, and in the form of publication.

WILLIAM A. ROGERS.

HARVARD COLLEGE OBSERVATORY,
March 29, 1877.

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OBSERVATIONS.

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INTRODUCTION.

THE observations of this volume are entirely differential in their character. Of the 564 stars observed, 289 are found in the catalogue furnished by the "Astronomische Gesellschaft," for the reduction of the zone observations undertaken under its auspices. These primary stars furnish the positions upon which the remaining 275 secondary stars depend. It is to be noted, however, that this dependence is not quite absolute for the first half of the series of observations in right ascension. The right ascensions of the primary stars between 12 hours and 24 hours, derived from the preliminary reductions, were employed in the final reductions, instead of the positions given in the standard catalogue. The corrections thus introduced are substantially the same as those given in Catalogue I. at the end of this volume. This method of reduction was abandoned in January, 1872. It seems desirable to follow strictly the fundamental catalogue adopted, in all differential work, both on account of the greater ease of reference in any doubtful case, and especially on account of the less danger of introducing and perpetuating systematic errors. In the present instance, however, the clock errors, resulting from the preliminary and the final reductions, are nearly identical. It was found that when as many as eight or ten fundamental stars were observed, the difference in the resulting values in the two cases, rarely amounted to more than $.01^{\circ}$.

In the determination of the equator-point corrections, the declinations of the primary stars were taken from the fundamental catalogue without correction. The Pulkova observations of the "Zusatz-sterne" were not received in time to be made available.

OBSERVERS. — The observations were all made by Mr. A. M. McConnel and myself under the initials, M. and R. It is to be understood that when M. is the observer, R. is the circle-reader, and *vice versa*.

INSTRUMENTS.

MERIDIAN CIRCLE. — The following description of the Meridian Circle, with which the observations were made, is quoted from Volume VIII. page 24: —

"The object-glass of the principal telescope of this Meridian Circle has a focal length of 9 feet 4.4 inches, and an aperture of $8\frac{1}{4}$ inches; the aperture of each collimator is 8 inches, with a focal length equal to that of the chief telescope. The cube of the axis, to which the telescope tube is attached, is pierced with opposite 8-inch apertures in the line of sight between the collimators when the telescope is vertical. The instrument is reversed, usually once a year, by means of a separate reversing carriage, which

ordinarily stands in one corner of the observing room, and is not shown in the plates accompanying this description. The diameter of each graduated circle is 3 feet; the length of the axis, 4 feet. The pivots are 3.58 inches in diameter.

"The place of the instrument in the West Transit Room, between the two domes, is shown in the lowest plan on Plate III. Its pier is shown in the section on Plate II. This pier is of hard brick; a sheet of lead, shown by a double line in Plate II., being used to separate the parts of the pier above and below the surface of the ground. In order to leave room for the movement of the telescope, the central portion of the pier is not carried to the level of the floor of the West Transit Room. Marble blocks are placed on the lateral portions of the pier, and are the only parts of the foundations of the instrument which appear in the room. Between them is a trench with wooden sides and floor, in which the observer takes his place. The instrument is set low, in order that the microscopes through which the graduated circles are read may not be inconveniently high; and when the readings of the circles are made by one observer while the telescope is used by another, as is customary, no inconvenience results from the place of the eye-piece at or below the general level of the floor.

"The four piers for the collimators are shown in the plan on Plate III., already referred to. They are of brick, cased with wood above the level of the floor; and they are capped with marble. They stand in the alcoves shown in Plates II. and III. on the northern and southern sides of the room. The eye-piece and object-glass of each collimator are independently supported, one by each of the two piers belonging to the collimator, and are covered by wooden boxes provided with doors, which are opened when the collimators are in use.

"An elevation of the principal instrument, and a section of the pier below the floor, are given in Plate V., p. 24. In this plate, the spectator is assumed to be looking southwards; and westwards in Plate VI., p. 24. Small letters in Plate VI. answer to the corresponding capitals of Plate V.

"The instrument is prevented from bearing too heavily on its pivots by the counterpoises S outside the piers and below the floor. They are adjusted by sliding them upon the horizontal rods which carry them, until the pivots are suitably relieved. The horizontal rods pass through the piers, resting on fulcra shown in the figure, and carry on their shorter arms the vertical rods Q, which support the friction rollers R. These friction rollers are sufficiently adjustable laterally (from north to south) to allow them to be brought into the proper position after the rods Q have been set up.

"The pivots A rest in the segmental bearings B, which are supported by iron standards D fastened to bed-plates let into the upper surfaces of the marble blocks which form the summits of the piers. The temperature of these plates, and approximately that of the piers, is indicated by the thermometers O, the bulbs of which dip into mercury contained in hollows made in the bed-plates. Counterpoises E, connected with levers F, are used to relieve the strain on D caused by the pressure of the pivots on the bearings.

"The graduated circles are marked C; the graduation is carried to every fifth minute of arc, and readings may be made to the fraction of a second by means of the microscopes K, which are provided with filar micrometers of the usual pattern. Each circle has four microscopes. They are carried on the circular supports H, to which they may be clamped opposite to any required points of the graduation. Each circle

also has a finding microscope J, of low power. The microscopes may be adjusted with the aid of the clamp and pushing screw shown at I.

"The limbs of the graduated circles are illuminated opposite to each reading microscope by the prisms P, which intercept part of the light used to illuminate the field of the telescope. This light ordinarily comes from the lanterns L, one or the other of which may be used according to the position of the axis of the instrument. Mirrors M, within the tubes of the lanterns, allow each lantern to be placed high enough to be out of the way of the observer who reads the circles; and other mirrors N throw light enough upon a table beneath the lantern to enable the readings to be recorded and the face of the chronometer to be seen. This method of illumination requires the use of a strong gas flame, which cannot always be had, especially in weather cold enough to condense moisture within the gas-pipes; oil lanterns have then to be used, and are necessarily placed much nearer the instrument than those represented at L.

"One of the graduated circles is fixed upon the axis, and reads zenith distances. The other is movable, and may be clamped so as to read declinations or polar distances, if required. The fixed circle is ordinarily used.

"Besides the finding microscopes J, the instrument has setting circles X near the eye-piece of the telescope. But it is more frequently set by means of a large wooden arc, a section of which appears at V; this arc is more fully represented by dotted lines in Plate VI. A smaller arc is marked on the marble pier at U, for use in zone observations. The adjustable pointer T, the counterpoise of which is represented at its upper end, enables the observer at the telescope to set the instrument quickly by means of one of the arcs just mentioned.

"The eye-piece, with the apparatus for moving it in right ascension and in declination, is represented at Y; the break-circuit key at W; and the clamp, used in connection with the tangent screw, at Z. Since declinations have been almost exclusively determined by the method of transits over inclined lines, this clamp and tangent screw have been little used.

"The pivots, microscopes, and graduated circles are protected from dust by glass cases shown in Plates V. and VI., in the tops of which are openings closed by stoppers except when the level is to be read. The legs of the level are then let down through these openings. A large wooden frame with movable cross pieces, represented at A in Plate VI., enables the observer to place himself in a position suitable for applying the level, or for making nadir observations.

"The openings in the glass cases, through which protrude the eye-pieces and micrometer screws of the reading microscopes, are closed against dust by pieces of silk attached to rings and gathered round the microscopes, as shown in Plate VI.

"The method for examining the form of the pivots is like that employed at Greenwich, an artificial star (already mentioned at p. 20) being observed through the axis, which is itself a telescope. The small collimating telescope also required for this purpose is attached, when in use, to the centre of one of the fixed supports H, which carry the reading microscopes. The measured displacement of the artificial star in the field of this telescope, as the axis of the principal instrument revolves in its bearings, will enable the curve apparently described by the star, and hence the form of the pivots, to be determined.

"The arrangement adopted for opening and closing the shutters is exceedingly

simple, and has been found to work very satisfactorily. It is slightly indicated in the upper figure of Plate II. The opening above the instrument and its collimators is closed by four shutters, to each of which is attached a rope passing over a pulley above the roof, and down near the wall of the transit room to a capstan, around which it takes one or two turns before passing through the floor into the cellar, where it is fastened to a counterpoise of nearly equal weight with the shutter. When the shutter is closed, the tension of the rope acts upon it obliquely, so that no fastening is required to keep it down even in the highest winds, while it is readily raised by a moderate force applied to the capstan. When the shutter is fully raised, the force of the counterpoise is applied to it at right angles to its surface, and brings it back with sufficient force to compress a spring, and keep it securely in a nearly vertical position. If the counterpoise is now raised a little by means of the capstan, the spring pushes the shutter far enough to enable its own weight afterwards to close it as fast as the counterpoise is raised. This method of working large shutters recommends itself especially by its cheapness. The original cost of the machinery was insignificant, and it has scarcely required any repairs during the six years which have passed since its erection."

MICROSCOPES. The microscopes are designated as follows:—

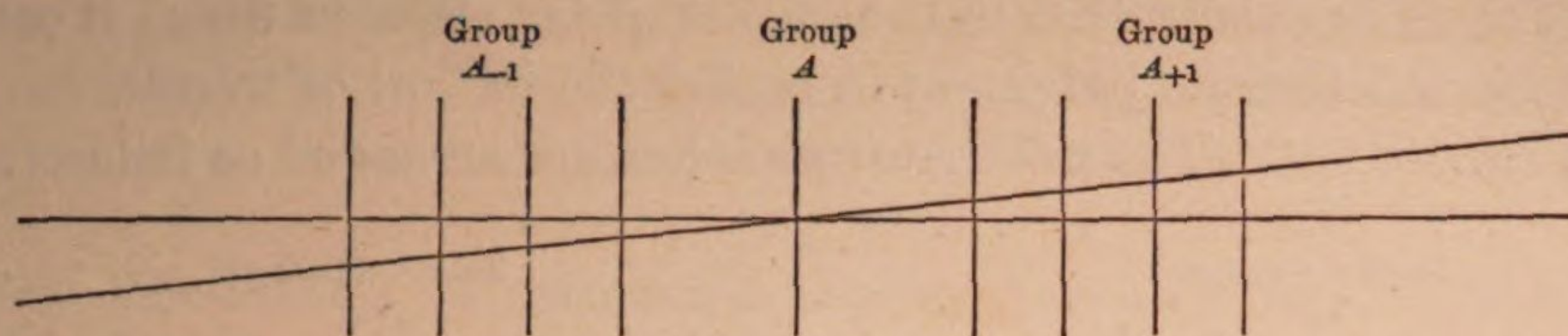
West Circle.	East Circle.
<i>A</i> = Lower, north.	<i>E</i> = Lower, south.
<i>B</i> = Lower, south.	<i>F</i> = Upper, south.
<i>C</i> = Upper, south.	<i>G</i> = Upper, north.
<i>D</i> = Upper, north.	<i>H</i> = Lower, north.

When the circle permanently attached to the axis is east, the instrument is said to be "circle east," and after reversal, to be "circle west."

MICROSCOPE MICROMETERS. The head of each micrometer screw is divided into 60 equal parts, each revolution representing 1'. The subdivisions are read to tenths of seconds of arc. For either position of the instrument, the subdivisions of the circle are read by giving the head of the screw an *increasing reading*, starting from the bulb or zero point of the comb. The power of the microscopes is just sufficient to allow a clear view of 6 divisions of the circle; hence, whatever may be the pointing, either the 0' and the two adjacent 15' divisions, or the 30', the 15' and the 45' divisions will be seen. The divisions are counted in the direction *opposite* to the apparent motion of the micrometer thread for an *increasing* reading of the head of the screw, giving south zenith distances for either position of the instrument. The degree is disregarded, since it is more convenient to obtain it from the tabular declination of the star observed. In order to avoid errors which may occur in the mental addition of the 5' division of the circle to the number of the tooth of the comb on which the division falls, each is read separately. Thus, 48' is read 45' + 3', and the addition is made from the records.

The threads of the micrometer are double. The average interval between them is about 17". The apparent width of the division lines on the circle is about 12".

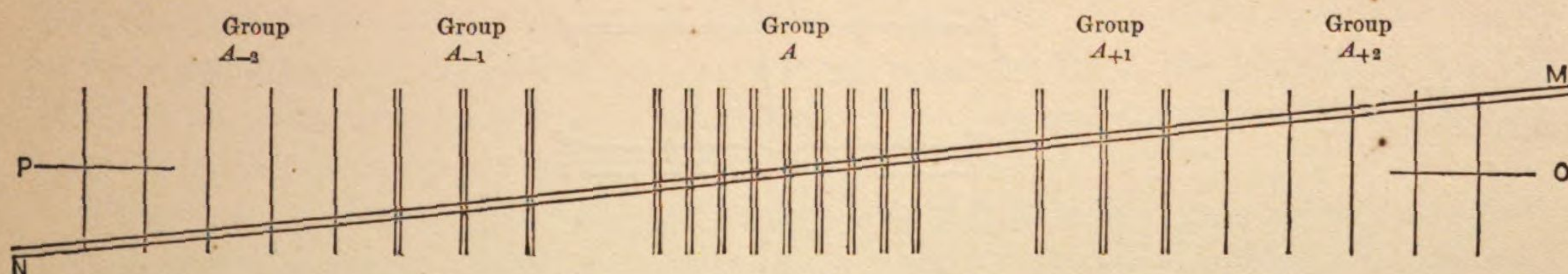
TRANSIT RETICULE. The system of spider lines first used with the instrument was arranged as follows:—



The threads of this system were so fine that it was extremely difficult to see them plainly with the amount of illumination required for faint stars. A system of lines etched upon glass was substituted for them in May, 1871, primarily in order to obviate this trouble, but also on account of the absolute constancy of the intervals. Experience had shown that the spider-line declination wire was liable to sag. This difficulty has been overcome by a line ruled upon glass.

Careful observations were first made, to ascertain the amount of the loss of light in the use of glass. One half of the field was covered successively with different kinds of glass, the other half being left open. By selecting close pairs of faint stars and comparing their brightness, — first, when both were in the open field; second, when one was under the glass and the other in the open field; and third, when both were under the glass, — it was found that when microscopic cover-glass was used, the loss of light was imperceptible to the eye.

The following description refers to the system which has been in use for the past three years. The differences which exist between this plate and some of the early experimental plates will be found fully explained in the “Notes upon the Observations.”



Groups A_{+2} and A_{-2} are composed of single lines and groups, A_{+1} , A and A_{-1} are composed of double lines. The width of each single line corresponds to $.06''$, and the clear space between the double lines corresponds to $.14''$. The linear distance between the lines, from centre to centre, is $\frac{1}{60}$ of an inch.

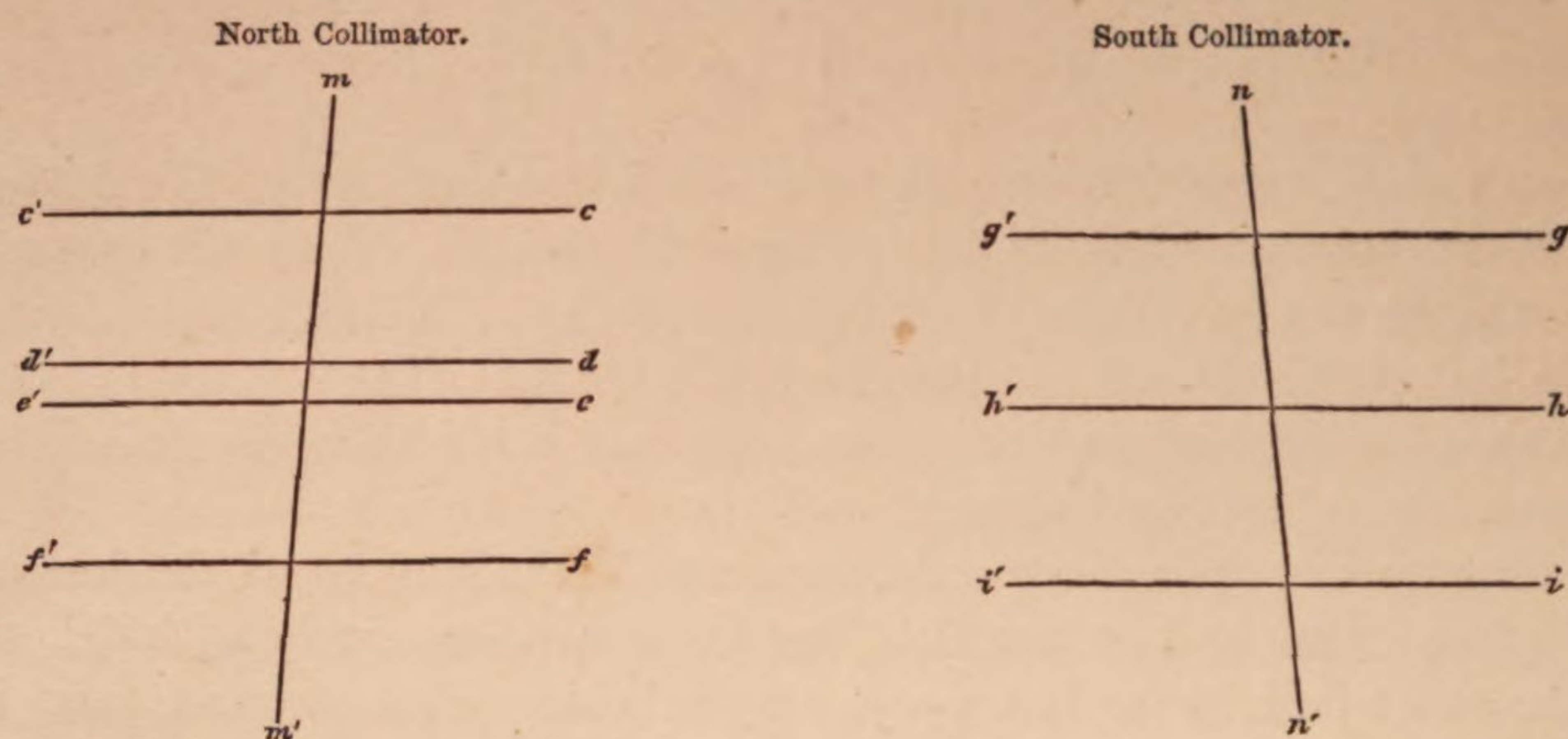
The declination wire MN , is double. The lines are separated by an interval of $\frac{1}{480}$ of an inch, corresponding to $3.9''$. The clear space between the lines corresponds to $3.0''$. The time of transit over the declination wire, in this series of observations is, for the most part, the mean of the times of transit over each wire and over the centre of the space between the wires.

The broken horizontal line OP is inserted for convenience in setting the telescope, so that the star will cross the declination wire at any desired point.

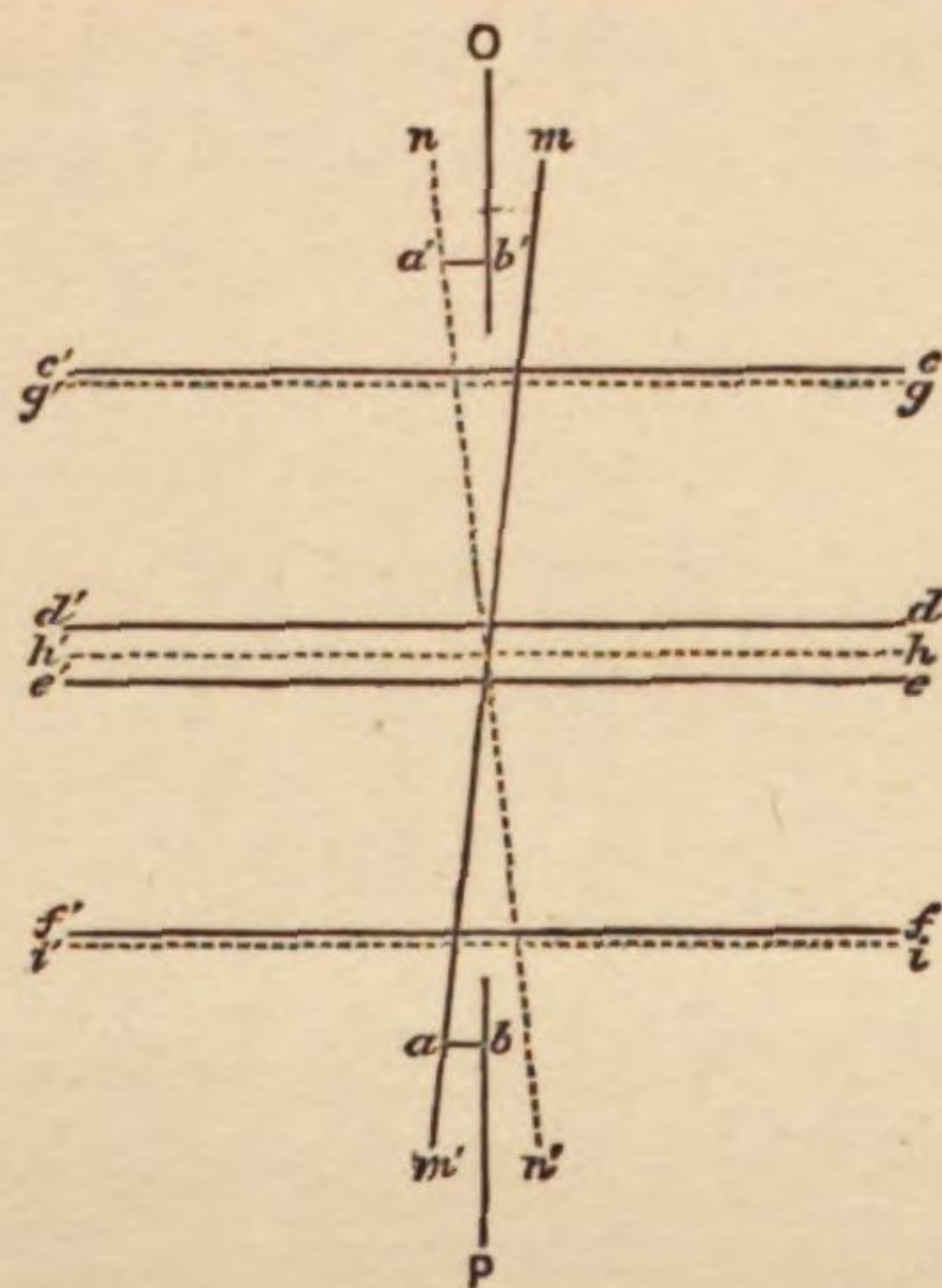
Groups A_{+2} and A_{-2} are only used for special purposes, as in finding the personal equation between double and single lines. Groups A_{+1} , the alternate wires of A , and A_{-1} are used for transits of stars south of $+60^\circ$ north declination. For all stars north of this limit, all the wires of A are used.

The substitution of double for single lines, the star being observed when it is in the centre between the lines, has resulted in a slight diminution of the probable error of observation. This is especially true in the case of polar stars, in which it seems possible to exercise more deliberate judgment in noting the instant of transit.

COLLIMATOR RETICULES. The collimator reticules are arranged as follows:—



The wires of the south collimator have a lateral movement by means of a micrometer screw, while those of the north collimator have a vertical movement. When they are set for coincidence with the horizontal screw, they present the following appearance:—



The dotted lines represent the wires of the south collimator.

The broken vertical line $O. P.$ represents the central wire of the system of transit lines, when the telescope is set for observing the collimation. Instead of obtaining a coincidence of parallel wires, the whole system of transit wires is moved by a micrometer screw till the distance $a b = a' b'$. The deviation of $m m'$ or of $n n'$ from the vertical is about 2° .

The probable error of a single determination of the collimation is not far from $\pm .005^s$. It seems possible to obtain the value of this constant with entire certainty within the limits of $.01^s$ or $.02^s$. It is the custom to adjust the collimation during the afternoon preceding the observations. As before stated, the whole system of wires is moved by a micrometer screw; and since the plate must be set at some value, there

seems to be no good reason why it should not be set at the zero of collimation, thereby reducing by one, the unknown quantities in the equations from which the other instrumental constants are found. In other words, the collimation can be found more easily and more accurately by instrumental means than from the observations.

The horizontal wires are used for the determination of the horizontal flexure of the telescope.

DIAGONAL EYE-PIECE. A diagonal eye-piece has been used in all of the observations. The power, as determined by a Dollond dynameter, is 310.

STANDARD CLOCK. The following description of the South Clock, with which nearly all the observations were made, is quoted from Volume VIII., page 17.

"The South Clock (Frodsham, No. 1327) was received in 1867, and has since been the standard clock of the Observatory. It was mounted on a pier near the south-west corner of the Clock Room; and in the spring of 1868 it was protected against dust and sudden atmospheric changes by a wooden box or housing, having double walls with a space of two inches between them. A glass door in the inner wall opposite the face of the clock allows the hands to be seen when a wooden door in the outer wall is opened, and may itself be opened when the clock is to be wound up. The whole housing rests on rollers, so that it may easily be removed when the clock is to be repaired or adjusted, and contains a small cupboard with two shelves, one of which has been much used as the place of a thermometric chronometer (Frodsham, No. 3424), so constructed that an increase of $6^{\circ}.11$ in its daily rate indicates a reduction of one degree Fahrenheit in the mean daily temperature of the surrounding air.

The clock was found to be an excellent instrument, but somewhat over-compensated for temperature. A considerable quantity of mercury was removed from the pendulum previous to May, 1872, when the pendulum was dismantled and subjected to various temperatures ranging from 66 to 180 degrees Fahrenheit. In conformity to the results of these experiments, 92 dwt. of mercury were removed from the pendulum, leaving 5234.0 dwt.; the original amount, before any of the changes above-mentioned, having been 19 lbs. avoirdupois, or 5541.7 dwt.

When the clock was again set up, its rate was at first better than it had been, but during the summer of 1872 it rapidly grew worse. A very careful examination of the instrument suggested, as a possible explanation of this irregularity, the abrasion of the polished surface of the pendulum rod by the crutch. This surface was repolished to diminish the friction; and the performance of the clock was afterwards satisfactory. Its character will appear from the observations contained in Vol. X. of this series.

The following statistics of the construction of the South Clock were received from the maker:

Total length of pendulum (mean time)		in inches, 43.560
" " jar		" 9.250
Diameter of bob		" 2.820
" rod		" 0.320
" bob, inside		" 2.400
Length of pendulum spring		" 0.600
Breadth " "		" 0.460
Thickness " "		" 0.006
Height of column of mercury		" 7.300

Weight of column of mercury	in pounds,	19
Total weight of pendulum	„	23 9½ oz.
Weight of motive weight	„	7
Number of teeth embraced by escapement		10
Angle of escapement		0.900
Arc of vibration on each side of zero, with or without galvanic attachment		1.90
Value of each division		0.700

The driving weight has been increased since the clock has been in use.

CHRONOGRAPH. The observations have all been recorded on a Bond spring-governor chronograph. They have been read off to tenths of seconds. The clock-beats are recorded each second.

BAROMETER. The standard barometer was made by James Green, of New York. During the year 1871, it was located in the same room with the standard clock, but in January, 1872, it was removed to the transit room.

THERMOMETER. The standard thermometer is known as “No. 4.” It was made by Bond & Sons of Boston, and is located outside of the Observatory building.

THE LEVEL. As the level does not enter directly into the reduction of the observations, only a brief description of it is necessary. The frame is of wood, and is 52 inches in length. The tube is 12 inches in length and 1 inch in diameter. It has 90 graduations on each side of the centre, extending over a distance of 3.6 inches; and each interval = 0".84. The frame which carries the tube, has two adjustments; one vertical, and the other horizontal.

NOMENCLATURE OF THE STARS.

For the primary catalogue, the nomenclature of the Gesellschaft has been strictly followed. For the secondary catalogue, Argelander's notation has been followed for all stars found in the Uranometria Nova, except for 1 and 2 Aquilæ, which are there called 3 and 4 H. Scuti. For the stars in the constellation Lupus, the notation of Behrmann is given. Stars not found in the Uranometria, but which are found in Piazzini, and which do not have either Bayer's letter or Flamsteed's number, are designated by his number and by the hour of right ascension. For the rest, the number in the British Association Catalogue is given, except in the case of a few stars which are found in Groombridge, and which are generally known by his numbers.

REDUCTION OF THE OBSERVATIONS IN RIGHT ASCENSION.

The observations in right ascension have been reduced by the formula:

$$R. A. = T + [A\tau + m] + n \tan \delta + \kappa + c \sec \delta,$$

in which

$$c \sec \delta = 0$$

For the determination of the clock error and the instrumental constant n , the equation is put under the form:

$$0 = [T - R. A.] + [A\tau + m] + n \tan \delta,$$

in which $[\Delta \tau + m]$ is considered as a single term with the coefficient unity. T is the mean of the wires corrected for the diurnal aberration $\ast$, of which the essential sign is negative. The broken transits, of which there are but few, have been reduced with the mean value of a single equatorial interval of:

$$2.0598.$$

Several discussions of the separate thread intervals have been made, from which it appears that the wires are separated by nearly equal spaces. It will be sufficient to give two determinations, the first made in 1872 and the second in 1873.

1872.		1873.	
Spaces.	Wire intervals.	Spaces.	Wire intervals.
1	2.053^s	1	2.056^s
2	2.053	2	2.057
3	4.130	3	4.116
4	2.047	4	2.058
5	2.067	5	2.059
6	2.062	6	2.062
7	2.056	7	2.056
8	4.118	8	4.113
9	2.055	9	2.060
10	2.058	10	2.056

The following are the values of the reduction to the middle wire, in the system of spider lines. Group A_{+1} precedes when the circle is east.

Wires. Reduction.		Wires. Reduction.	
Group A_{+1}	$1 + 12.411^s$	Group A_{-1}	$1 - 12.442^s$
	$2 + 9.877$		$2 - 9.887$
	$3 + 7.426$		$3 - 7.462$
	$4 + 4.962$		$4 - 4.885$

The primary stars observed, are divided into two groups, designated equatorial and polar. The equatorial group contains stars south of $+65^\circ$ north declination; and the polar group, stars north of this limit. The mean of the equations in the equatorial group is subtracted from the equation for each star of the polar group, giving a series of equations of the form:

$$o = \Delta [T - R. A.] + n \text{ tang } \delta,$$

from which the values of n are derived. The adopted value of n being substituted in the preceding equation, the value of $[\Delta \tau + m]$ becomes known. As a check, the value of $-[\Delta \tau + m]$ is derived from each equation of the equatorial group. The mean of the values thus found, should agree with the numerical value derived from the mean equation. The observations of each observer are reduced separately: hence no correction for the personal equation of the observers is necessary.

During 1871, the equations involving n were solved by least squares, an approximate value of n having first been substituted in the equations, in order to reduce the magnitude of the known term. This method of solution was abandoned in January, 1872. After this date, the arithmetical mean of the separate values of n was adopted.

The following example will illustrate the form of the reduction. A date is chosen, on which the standard clock has a large hourly rate. The numbers under the headings $[\Delta \tau + m]$ and $\tan \delta n$ are the coefficients respectively of $[\Delta \tau + m]$ and n .

Date of observation, Jan. 5, 1872.

Approximate hourly rate of clock = $+0.03$.

EQUATORIAL GROUP.

Star.	R. A.	δ	$[T - R. A.]$	$[\Delta \tau + m]$	$\tan \delta n$	$n = +0.393$	$n \tan \delta - [\Delta \tau + m]$
	$h. m.$	$^{\circ}$					
ξ^2 Ceti . .	2 21	+ 7.9	0 =	-26.76	+1	+0.14	+ .06 -26.70
ν Arietis . .	2 31	+21.4		-26.91	+1	+0.39	+ .15 -26.76
θ Persei . .	2 35	+48.7		-27.17	+1	+1.14	+ .45 -26.72
41 Arietis . .	2 42	+26.7		-26.88	+1	+0.50	+ .20 -26.68
τ Persei . .	2 45	+52.2		-27.23	+1	+1.29	+ .51 -26.72
α Ceti . .	2 56	+ 3.6		-26.73	+1	+0.06	+ .02 -26.71
β Persei . .	3 0	+40.5		-27.12	+1	+0.85	+ .33 -26.79
α Persei . .	3 15	+49.4		-27.29	+1	+1.17	+ .46 -26.83
σ Tauri . .	3 18	+ 8.6		-26.81	+1	+0.15	+ .06 -26.75
ϵ Eridani . .	3 27	- 9.9		-26.65	+1	-0.17	- .07 -26.72
δ Persei . .	3 34	+47.4		-27.19	+1	+1.09	+ .43 -26.76
η Tauri . .	3 40	+23.7		-26.96	+1	+0.44	+ .17 -26.79
λ Tauri . .	3 54	+12.1		-26.86	+1	+0.21	+ .08 -26.78
c Persei . .	3 59	+47.4		-27.15	+1	+1.09	+ .43 -26.72
γ Tauri . .	4 12	+15.3		-26.85	+1	+0.27	+ .11 -26.74
MEANS . .	3 13	+26.3		-26.97	+1	+0.57	-26.745

POLAR GROUP.

Star.	R. A.	δ	$[T - R. A.]$	Red. to 3.2	$T - R. A. [\Delta \tau + m] \tan \delta n$
	$h. m.$	$^{\circ}$			
47 H. Cephei . . .	2 49	+78.9	-28.77	-0.01	0 = -28.78 +1 +5.10
48 H. Cephei . . .	3 4	+77.3	-28.41	+ .00	-28.41 +1 +4.44
ζ Ursæ Min. L. C. .	3 49	+78.2	-24.81	+ .02	-24.79 +1 -4.79

Equations involving n .

$$\begin{aligned} 0 &= -1.81 + 4.53 n \\ 0 &= -1.44 + 3.87 n \\ 0 &= -2.18 + 5.36 n \end{aligned}$$

$$\begin{aligned} n &= +0.40 \\ &+0.37 \\ &+0.41 \\ \text{Mean } &+0.393 \end{aligned}$$

$$0 = -26.97 + [\Delta \tau + m] + .57 n \quad \Delta \tau + m = +26.75$$

REDUCTION OF THE OBSERVATIONS IN DECLINATION.

The observations in declination have been reduced by the formula:

$$\text{Apparent } \delta = \delta' + R_{in.} + R_{md.} + R_{eq.} + R_{rf.} + R_{rs.} + R_{\mu.} + R_{de.}$$

in which the terms have the following definitions:

δ' = the observed apparent declination, derived from the circle readings by the formula:

$$\delta = \varphi - z$$

in which z is the south zenith distance. The latitude of the Observatory which has been used in the reductions, is:

$$\varphi = 42^\circ 22' 48''.35$$

$R_{in.}$ = the reduction from the point of transit over the declination wire to the fictitious horizontal wire passing through the intersection of the middle transit wire and the inclined wire. The reduction is expressed by the formula:

$$R_{in.} = 15 [T_m - T_\delta] \cos \delta \tan i$$

in which the terms have the following signification:

T_m = the time of transit over the mean of the wires,

T_δ = the time of transit over the declination wire,

i = the angle of inclination between the horizontal and the inclined wire.

When the circle is west, the east or preceding end of the declination wire is below the horizon, and the inclination then has the positive sign.

The following are the values of i , with which the observations have been reduced. They were derived from two transits over the declination wire, by the formula:

$$\tan i = \frac{\Delta \delta}{15 (T_{\delta_2} - T_{\delta_1}) \cos \delta}$$

in which $\Delta \delta$ is the difference between the observed declinations at the instants of transit, derived from the circle readings.

Dates.		i	$\log 15 \tan i$
From April 26, 1871, to May 18, 1871		$4^\circ 40'$	0.08794
May 25,	June 2,	5 8	0.12953
June 3,	June 7,	5 1	0.11949
June 8,	June 19,	4 52	0.10625
June 20,	July 19,	5 16	0.14073
July 20, 1871	Jan. 25, 1872	5 6	0.12669
Jan. 26,	May 22,	5 0	0.11804

$R_{md.}$ = the reduction to the meridian.

$$R_{md.} = 112.5 z^2 \sin 1'' \sin \delta \cos \delta$$

For stars between the equator and the pole, the reduction is negative, for stars south of the equator it is positive, and for stars below pole it is positive, when applied to $180^\circ - \delta$.

$R_{eq.}$ = the equator-point correction. This quantity has been determined by comparing the observed apparent declinations, after all the corrections have been applied, with the apparent positions given in the ephemeris of the standard catalogue, excluding only stars observed at the lower culmination.

$R_{rf.}$ = the reduction for refraction. The reduction is expressed by the equation:

$$R_{rf.} = \mu \tan z \beta^A \gamma^\lambda$$

R_{rf} is positive for all stars north of the zenith, and negative for all stars south of the zenith. It is also positive for all stars below pole when applied to $180^\circ - \delta$. If

$$\beta = B + T,$$

the equation can be put under the form:

$$\log R_{rf} = [\mu + \log \tan z] + [B + T + \gamma] + [A - 1][B + T] + [\lambda \gamma - \gamma]$$

In practice, it is the custom to take out $B + T + \gamma$ (terms depending on the barometer and on the attached and the external thermometers) for the times of observation. After reducing the values thus found, to even hours of right ascension, the intermediate values are derived by interpolation. This part of the computation is carried forward as a part of the current daily work of the Observatory. Since $[\mu + \log \tan z]$ is a constant for any star, within the ordinary limits of the time over which the observations extend, the computation of the greater part of the refraction, consists simply in adding this constant to $[B + T + \gamma]$. The total refraction is then computed by adding the small terms,

$$[A - 1][B + T] + [\lambda \gamma - \gamma]$$

in those cases in which the correction is sensible. The numerical values, in terms of the mean refraction, are taken from manuscript tables, computed with the mean height of the barometer for the latitude of $42^\circ 23'$ and the mean of the monthly readings of the thermometers. The error introduced through this assumption is, in the most extreme case, $\pm 0.05''$.

The refractions have been computed from the "Tabulæ Refractionum in usum Speculæ Pulcovensis congestæ."

R_{rs} = the reduction for runs.

R_{rs} = correction for $1' \times$ the reading of the microscope micrometer.

The following values of the correction for each minute of arc, were used in the reduction of the observations. They were derived by taking the mean of the daily corrections for intervals of about 10 days.

Interval between Groups.		Corr. for $1'$	Interval between Groups.		Corr. for $1'$
From April 26, 1871, to May 7, 1871		+ 0.21	From Nov. 5, 1871, to Nov. 13, 1871		— 0.08
May 9,	May 18,	+ 0.15	Nov. 19,	Nov. 29,	— 0.06
May 19,	May 29,	+ 0.16	Dec. 1,	Dec. 9,	— 0.04
June 1,	June 9,	+ 0.25	Dec. 11,	Dec. 20,	— 0.13
June 12,	June 21,	+ 0.15	Dec. 24, 1871	Jan. 2, 1872	— 0.14
June 25,	July 5,	+ 0.24	Jan. 5,	Jan. 15,	— 0.11
July 7,	July 17,	+ 0.22	Jan. 21,	Feb. 1,	— 0.13
July 20,	Aug. 2,	+ 0.21	Feb. 2,	Feb. 14,	— 0.13
Aug. 3,	Aug. 11,	+ 0.25	Feb. 15,	Feb. 26,	— 0.07
Aug. 17,	Aug. 28,	+ 0.19	Feb. 27,	March 11,	— 0.10
Aug. 29,	Sept. 10,	+ 0.16	March 14,	March 24,	— 0.05
Sept. 18,	Sept. 28,	— 0.13	March 27,	April 6,	— 0.01
Sept. 29,	Oct. 8,	— 0.17	April 10,	April 21,	+ 0.01
Oct. 9,	Oct. 21,	— 0.16	April 22,	May 2,	+ 0.03
Oct. 21,	Nov. 2,	— 0.17	May 3,	May 22,	+ 0.03

R_{μ} = the reduction for flexure,

$$R_{\mu} = H_{\mu} \sin z$$

in which H_{μ} signifies the astronomical horizontal flexure.

Two methods have been employed to determine the value of this quantity.

First. If the parallel wires of the north collimator are brought upon the horizontal wire of the south collimator in such a way that the space between them is bisected by the single wire, and the telescope is set upon the wire of each collimator in succession, one half the difference between the two circle readings for the north and the south points, will be the horizontal flexure. Applied to declinations, H_{μ} is positive for all stars south of the zenith when the reading of the south collimator is greater than that of the north collimator.

At the time when this series of observations was made, the system of collimator wires in use, were entirely unsuited to the determination of this constant. The present system was inserted in May, 1876. Since that time, four series of determinations have been made.

The first series, made in May, 1876, gave :

$$H_{\mu} = 2.03''$$

The second series, kindly made for me by Professor T. H. Safford in May, 1876, gave :

$$H_{\mu} = 1.83''$$

The third series made in December, 1876, and also before the reversal of the telescope in January, 1877, gave :

$$H_{\mu} = 1.77''$$

The third series, made in January, 1877, after the reversal of the instrument, gave :

$$H_{\mu} = 0.94''$$

Since the separate values show a good agreement, there does not seem to be much doubt that the value of the constant changes with the reversal of the instrument.

Second. If the values of the equator-point corrections are computed with the assumption that $H_{\mu} = 0$, the difference between the values for the extreme points of observation, on opposite sides of the zenith, will furnish the data for the derivation of this constant, if the positions of the fundamental stars upon which they depend, are exactly known.

Then :

$$H_{\mu} = \frac{R'_{eq.} - R_{eq.}}{\sin z - \sin z'}$$

in which $R'_{eq.}$ represents the equator-point correction for a star north of the zenith and $R_{eq.}$ the value for a star south of the zenith. The value of H_{μ} when applied to declinations, has the positive sign for stars north of the zenith, and the negative sign for stars south of the zenith.

The value of this constant for each month, given in the following table, is the mean of all the determinations made within the month. For the most part, two equations were formed : one by combining stars south of the equator with stars above pole ; and

the other, by combining south stars with polar stars observed at the lower culmination. The results were then combined, giving equal weight to each. The weights in the table are proportional to the number of days on which observations were made.

Date.	Value of H_{μ}	Weight.	Date.	Value of H_{μ}	Weight.
	"			"	
1871, May,	2.95	5	1871, Nov.,	2.24	11
June,	2.49	6	Dec.,	2.73	16
July,	2.02	5	1872, Jan.,	2.22	9
Aug.,	2.60	8	Feb.,	2.18	16
Sept.,	2.33	7	March,	1.85	8
Oct.,	1.53	16	April,	2.11	17

The mean by weights is :

$$2''.19.$$

If double weight is given to the values derived from stars observed at the lower culmination, the mean becomes :

$$2''.37.$$

After some hesitation, it was decided to use the latter value in the reduction of the observations; chiefly on the ground that the positions of the fundamental catalogue are better satisfied with this value. Since the observations are differential in their character, the fundamental system ought to be represented as closely as possible. To a certain extent, this value will include the flexure of the circles.

$R_{av.}$ = the reduction for the division-errors of the circle.

The investigation of these errors is not yet completed: hence no corrections on this account have been applied to the observed declinations. The plan of the discussion undertaken, involves a determination of the error of every 5' space on each circle. The final corrections obtained will be applied to the positions derived from a combination of the present series of observations with the same series re-observed in 1874-5.

If δ_0 = the apparent declination of any fundamental star, derived from the ephemeris of the Gesellschaft; then for the determination of the equator-point correction, we have :

$$R_{eq.} = \delta_0 - \delta = \delta_0 - [\delta' + R^{in.} + R_{md.} + R_{rf.} + R_{rs.} + R_{ft.}]$$

The following example will illustrate the form of the reduction :

JANUARY 5, 1872. CIRCLE WEST.

R. A.	$B + T + \gamma$	Change of $B + T + \gamma$ for 0 ^a .1	log. 15 tang. i	Run. Corr. for 1'.	H_p
2.0	+ 1345			"	"
3.0	+ 1452	+ 11	.12669 _n	-0.11	2.37
4.0	+ 1560				

	ξ^2 Ceti.	ν Arietis.	ϕ Persei.	41 Arietis.	τ Persei.	47 H. Cephei.	α Ceti.	β Persei.	48 H. Cephei.
δ	+ 7 53	+ 21 24	+ 48 41	+ 26 44	+ 52 14	+ 78 54	+ 3 35	+ 40 28	+ 77 16
Circle Reading,	30 20.35	58 38.75	42 14.00	39 13.25	9 19.20	29 25.70	47 32.10	55 37.95	8 18.45
T_m .	2 20 54.1	2 31 5.7	2 35 0.4	2 41 59.9	2 44 44.1	2 48 42.5	2 55 8.4	2 59 23.4	3 3 42.4
T_δ	21 4.9	30 46.5	34 29.9	41 39.4	44 19.2	47 13.9	54 50.9	58 57.7	2 23.0
$T_m - T_\delta$	- 10.8	+ 19.2	+ 30.5	+ 20.5	+ 24.9	+ 88.6	+ 17.5	+ 25.7	+ 79.4
log. ($T_m - T_\delta$)	1.03342 _n	1.28330	1.48430	1.31175	1.39620	1.94743	1.24304	1.40993	1.89982
log. cos. δ	9.99588	9.96898	9.81969	9.95090	9.78707	9.28448	9.99915	9.88126	9.34324
log. R_{in} .	1.15599	1.37897 _n	1.43068 _n	1.38934 _n	1.30996 _n	1.35860 _n	1.36888 _n	1.41788 _n	1.36975 _n
$\mu + \log$. tang. z .	1.59690	1.34370	0.80360 _n	1.20750	1.00010 _n	1.62960 _n	1.66500	0.28560	1.60320 _n
$B + T + \gamma$	+ .01383	+ .01399	+ .01410	+ .01420	+ .01427	+ .01432	+ .01441	+ .01452	+ .01460
log. [$R_{rf} - (\lambda \gamma - \gamma)$]	1.61073	1.35769	0.81770 _n	1.22170	1.01437 _n	1.64392 _n	1.67941	0.30012	1.61780 _n
δ'	+ 52 28.00	+ 24 9.60	+ 40 34.35	+ 43 35.10	+ 13 29.15	+ 53 22.65	+ 35 16.25	+ 27 10.40	+ 14 29.90
R_{in} .	+ 14.32	- 23.93	- 26.96	- 24.51	- 20.41	- 22.83	- 23.38	- 26.18	- 23.43
$R_{rf} - (\lambda \gamma - \gamma)$	- 0 40.81	- 0 22.79	+ 0 6.57	- 0 16.66	+ 0 10.34	+ 0 44.04	- 0 47.80	- 0 2.00	+ 0 41.48
$\lambda \gamma - \gamma$	.....	.....	.....	.....	.....	.....	.....	.....	.....
R_{md} .	- 0.01	- .06	- .24	- .09	- .17	- .81	- .01	- .18	- .76
R_{rs} .	- 0.03	- .40	- .24	- .46	- .47	- .48	- .27	- .07	- .36
R_{β} .	- 1.34	- 0.84	+ 0.24	- 0.64	+ 0.40	+ 1.39	- 1.49	- 0.08	+ 1.35
δ	52 0.1	23 21.6	40 13.7	42 52.7	13 18.8	53 43.9	33 3.3	26 41.9	14 48.2
δ_o	53 1.8	24 23.1	41 14.6	43 54.4	14 20.1	54 45.1	34 4.1	27 43.8	15 49.8
R_{eq} .	+ 61.7	+ 61.5	+ 60.9	+ 61.7	+ 61.3	+ 61.2	+ 60.8	+ 61.9	+ 61.6

	$\circ$ Tauri.	ϵ Eridani.	Groom. 716.	δ Persei.	η Tauri.	ζ Ursæ Mino- ris L.C.	λ Tauri.	c Persei.	γ Tauri.
δ	+ 8 35	- 9 54	+ 62 48	+ 47 23	+ 23 42	+ 101 49	+ 12 7	+ 47 22	+ 15 19
Circle Reading.	48 12.75	16 48.75	35 39.40	0 50.05	40 36.15	36 54.20	15 12.30	2 5.65	3 54.00
T_m .	3 17 28.6	3 26 27.4	3 30 36.7	3 33 21.9	3 39 25.6	3 48 12.3	3 53 8.6	3 58 55.5	4 12 3.8
T_δ	17 11.2	26 7.0	29 50.1	32 54.8	39 5.2	47 5.1	52 46.5	59 20.3	11 42.6
$T_m - T_\delta$	+ 17.4	+ 20.4	+ 46.6	+ 27.1	+ 20.4	+ 67.2	+ 22.1	- 24.8	+ 21.2
log. ($T_m - T_\delta$)	1.24055	1.30963	1.66839	1.43297	1.30963	1.82737	1.34439	1.39445 _n	1.32634
log. cos. δ	9.99511	9.99348	9.66001	9.83065	9.96174	9.31129 _n	9.99022	9.83078	9.98429
log. R_{in} .	1.36235 _n	1.42980 _n	1.45509 _n	1.39031 _n	1.39806 _n	1.26535	1.46130 _n	1.35192	1.43732 _n
$\mu + \log$. tang. z .	1.58570	1.87060	1.33100 _n	0.70180 _n	1.28900	1.98711 _n	1.52590	0.70130 _n	1.46840
$B + T + \gamma$	+ .01485	+ .01499	+ .01506	+ .01513	+ .01524	+ .01538	+ .01549	+ .01560	+ .01582
log. [$R_{rf} - (\lambda \gamma - \gamma)$]	1.60055	1.88559	1.34606 _n	0.71693 _n	1.30424	2.00249 _n	1.54139	0.71690 _n	1.48422
δ'	+ 34 35.60	- 53 0.40	+ 47 8.95	+ 21 58.30	+ 42 12.26	+ 45 54.16	+ 7 36.05	+ 20 42.70	+ 18 54.35
R_{in} .	- 23.03	- 26.90	- 28.51	- 24.56	- 25.01	+ 18.42	- 28.93	+ 22.49	- 27.37
$R_{rf} - (\lambda \gamma - \gamma)$	- 0 39.86	- 1 16.84	+ 0 22.18	+ 0 5.21	- 0 20.15	+ 1 40.57	- 0 34.78	+ 0 5.21	- 0 30.49
$\lambda \gamma - \gamma$	.....	- 0.01	.....	.....	.....	+ 0.01	.....	.....	.....
R_{md} .	- 0.03	+ .04	- .49	- .20	- .08	+ .50	- .04	- .17	- .06
R_{rs} .	- .35	- .09	- .08	- .09	- .07	- .11	- .02	- .23	- .43
R_{β} .	- 1.32	- 1.87	+ 0.81	+ 0.20	- 0.76	+ 2.06	- 1.19	+ 0.20	- 1.07
δ	33 31.0	54 46.1	47 2.9	21 38.8	41 26.2	47 55.6	6 31.1	21 10.2	17 54.9
δ_o	34 32.5	53 43.3	48 5.6	22 39.6	42 27.5	48 59.2	7 34.1	22 11.3	18 58.8
R_{eq} .	+ 61.5	+ 62.8	+ 62.7	+ 60.8	+ 61.3	+ (63.6)	+ 63.0	+ 61.1	+ 63.9

EXPLANATION OF THE PRINTED OBSERVATIONS.

The observations extend from page 2 to page 199. The form of publication adopted by Professor Winlock differs from that usually followed, in several respects. The essential difference consists in arranging in one place, all the observations, together with all of the reductions which make up the mean values of the coördinates in right ascension and declination for the beginning of the year to which they are referred.

THE RIGHT ASCENSION PAGES.

The name of the star is written above the observations. Those stars which are found in the primary catalogue are designated by an asterisk. The value of α_0 which follows, is the mean of the values given by the following authorities: —

WASHINGTON, 1860 (Yarnall).

OXFORD, 1860.

GREENWICH, 1860.

GREENWICH, 1864.

CAPE OF GOOD HOPE, 1860.

The positions were brought forward to 1872 by means of the precessions for the epoch of the authority, the proper motion being taken into account whenever given. No reduction for equinox was applied, the object of introducing this value being to secure a check against any gross error in the reduction of the present series of observations.

The column *Date*, contains the day of the month on which the observation was made. It is supposed to commence with the transit of the sun.

The columns *Right Ascension Wires*, contain the times of transit over the separate wires, taken directly from the chronograph sheets.

The column *Seconds of Transit over Mean Wire*, contains the means of the separate wires when all the wires were observed, and the equivalent means in the case of broken transits.

The column $n \tan \delta + \kappa$, contains the corrections depending on the constant n , plus the diurnal aberration κ . By the direction of Professor Winlock, the value of κ was introduced into the reductions, instead of being eliminated in the setting of the collimator-screw, on the ground that there was less chance of using its value with the wrong sign.

The values of n are taken from Table XVII. page lxxx.

The column $\Delta T + m$, contains the clock errors, including the constant m , derived from Table XVII.

The column *Red. to 1872.0*, contains the reduction from the date of observation to the beginning of the year 1872, generally known as "the reduction to apparent place." In the case of the primary stars, this reduction includes the proper motion for the fractional part of the year, but in the case of the secondary stars, it is not taken into account.

The values in the column *Mean Right Ascension for 1872.0*, are found by taking the sum of the four preceding columns.

THE DECLINATION PAGES.

The column *Declination Wire*, contains the time of transit over the inclined wire. In those cases in which the time is doubtful on account of an imperfect record on the chronograph sheet, the reading is included in a parenthesis.

The column *Circle Division*, contains the reading of the division of the circle, nearest the zero of the comb of the microscope micrometer, reckoned in the opposite direction from the apparent motion of the micrometer thread for an increasing reading of the screw-head.

The columns *Microscopes*, contain the circle readings counted from the zenith, south.

The column *Mean of Microscopes*, is formed by taking the mean of the values in the two preceding columns.

The column *Mean reduced to Horizontal Wire*, is formed by adding the reduction for inclination, derived with the values of the inclination given on page xix.

The column *Apparent Declination*, is found by subtracting the values in the preceding column from 22' 48."35.

The column *Refraction*, contains the values of this correction computed from the Pulkova Tables.

The columns *Rd. Mn. + Runs + Flex.*, contains the sum of the corrections for the reduction to the meridian, the runs and the flexure at the zenith distance of the star observed. These corrections are grouped together for want of room to print them separately. The constant for the runs is found on page xx.

The column *Eqr. Point Correct'n*, contains the equator-point corrections due to the error of the zero-point of the circle. The values are taken from Table XVII. page lxxx.

The columns *Red. to 1872.0* and *Mean Declination for 1872.0*, have a definition analogous to the corresponding columns on the right ascension pages.

CATALOGUE I.

This catalogue extends from page 203 to page 211. It contains the mean positions of the primary stars for 1872.0 derived from the observations, together with the annual variations, the mean year of observation, the number of observations and the corrections to the positions of the primary catalogue. The annual variations are taken from the ephemeris of the Gesellschaft for 1872, without change.

CATALOGUE II.

This catalogue extends from page 214 to page 227. It contains the mean positions of the secondary stars for 1872.0, derived from the observations, together with the precession, the proper motion, the mean year and the number of observations. The precessions are computed from the Washington Tables for 1850, with the aid of Argelander's table for the conversion to Bessel's constant of precession for any epoch, found on page xxxix.

The secular variations are computed from the "Tafeln zur leichteren Berechnung des zweiten und dritten Gliedes der Präcession," by the formula:

$$\frac{100}{15} \frac{d^2 \alpha}{d \tau^2} = A + B \tan \delta + C \tan^2 \delta$$

$$100 \frac{d^2 \delta}{d\tau^2} = A' + B' \tan \delta$$

in which

$$A = \left[m' + \frac{n^2}{2R} \sin 2\alpha \right] \cdot \frac{100}{15}$$

$$B = \frac{100}{15} \left[\frac{m}{R} \cos \alpha + n' \sin \alpha \right]$$

$$C = \frac{100}{15} \left[\frac{n^2}{R} \sin 2\alpha \right]$$

$$A' = 100 \left[n' \cos \alpha - \frac{m}{R} \sin \alpha \right]$$

$$B' = -100 \frac{n^2}{R} \sin^2 \alpha$$

The secular variations are then converted into annual variations of $\frac{d\alpha}{d\tau}$ and $\frac{d\delta}{d\tau}$ for $1872 + \tau$, the former in units of the fourth decimal place, and the latter in units of the third decimal place.

For convenience of reference, the equations for the third term of the precession are added. They are as follows:—

$$\frac{d^3 \alpha}{d\tau^3} = \left[P + P_1 \tan \delta + P_2 \tan^2 \delta + P_3 \tan^3 \delta \right] \left(\frac{\tau}{100} \right)^3$$

$$\frac{d^3 \delta}{d\tau^3} = \left[Q_1 + Q_2 \tan \delta + Q_3 \tan^2 \delta \right] \left(\frac{\tau}{100} \right)^3$$

in which

$$15 P = -0.07257 + (7.67361_n) \sin \alpha \cos \alpha + (9.33786) \cos^2 \alpha$$

$$15 P_1 = + (7.34644_n) \cos \alpha + (9.29725_n) \sin \alpha + (9.27777) \sin \alpha \cos^2 \alpha$$

$$15 P_2 = -0.21770 + (7.97464_n) \sin \alpha \cos \alpha + (9.63889) \cos^2 \alpha$$

$$15 P_3 = + (8.80065_n) \sin \alpha + (9.40271) \sin \alpha \cos^2 \alpha$$

$$Q_1 = + (7.34644) \sin \alpha + (9.22186_n) \cos \alpha + 8.49962_n \cos \alpha \sin^2 \alpha$$

$$Q_2 = + (7.67361) \sin^2 \alpha + (9.33786_n) \sin \alpha \cos \alpha$$

$$Q_3 = + (8.97674_n) \cos \alpha \sin^2 \alpha$$

The values under the column *Proper Motion*, are derived from Table XII. page lxix.

CATALOGUE III.

This catalogue extends from page 231 to page 240.

It contains the mean right ascensions for 1868.0 of the stars of the catalogue observed with the old transit circle, together with the results of the separate observations in hundredths of seconds of time.

The observations were nearly all made by Mr. E. P. Austin, and the reductions were either made by him or under his direction. In accordance with the expressed purpose of Professor Winlock, the details of the observations and of the reductions are omitted in this volume.

PROPER MOTION IN RIGHT ASCENSION AND DECLINATION.

The differences, both constant and periodic, which exist between the positions of stars observed with different instruments and under different conditions, require that the observations made by different observers shall be reduced to a homogeneous system, both in right ascension and in declination, before they are compared with each other. Even if the system chosen, involves in a slight degree the errors under consideration, they will be for the most part eliminated from the proper motions obtained from a comparison of observations separated by long intervals of time, after the systematic corrections due to each catalogue have been applied.

ON THE SYSTEMATIC ERRORS IN RIGHT ASCENSION.

First. If we assume for the moment, that all the stars observed, are situated on the equator, then any systematic deviations from an assumed system of right ascensions may be expressed by a series of equations of the form:

$$r = c + [m \sin \alpha + n \cos \alpha] + [m' \sin 2 \alpha + n' \cos 2 \alpha] + \&c.$$

since the residuals r then become circular periodic functions with respect to the equator. In this equation, c is a constant, and may be taken to represent the reduction to a common equinox.

Since every star observed will give an equation of this form, the values of the unknown quantities c , m , n , m' and n' , may be derived from the given series of equations by the process of least squares; the known term r being found by subtracting the observed from the tabular right ascensions. Since the solution with five unknown quantities would be extremely tedious, it will be better to proceed with successive partial solutions. Neglecting for the present the term $[m' \sin 2 \alpha + n' \cos 2 \alpha]$, our equation becomes:

$$r = c + m \sin \alpha + n \cos \alpha,$$

and the normal equations, derived from the given series of equations become:

$$\begin{aligned} \Sigma r \cos \alpha &= c \Sigma \cos \alpha + m \Sigma \sin \alpha \cos \alpha + n \Sigma \cos^2 \alpha \\ \Sigma r \sin \alpha &= c \Sigma \sin \alpha + m \Sigma \sin^2 \alpha + n \Sigma \sin \alpha \cos \alpha \\ \Sigma r &= \Sigma c + m \Sigma \sin \alpha + n \Sigma \cos \alpha \end{aligned}$$

If the stars are evenly distributed over each hour of right ascension,

$$n \Sigma \cos \alpha + m \Sigma \sin \alpha = 0$$

and

$$\Sigma c = \Sigma r$$

In practice, it will be found sufficient to determine c by taking the arithmetical mean of the values of r , unless the errors depending on the declination are large, and especially when they are unevenly distributed over the different hours of right ascension.

In this case it will be better to determine it from stars situated on the equator or on a parallel of declination near the equator. It will sometimes be necessary even to correct r approximately, for the errors depending on the declination, before the mean is taken. We shall then have :

$$r - c = r' = m \sin \alpha + n \cos \alpha$$

and the normal equations will become :

$$\begin{aligned} r' \Sigma \sin \alpha &= m \Sigma \sin^2 \alpha + n \Sigma \sin \alpha \cos \alpha \\ r' \Sigma \cos \alpha &= m \Sigma \sin \alpha \cos \alpha + n \Sigma \cos^2 \alpha \end{aligned}$$

from which m and n may be found directly. The original equations now take the form :

$$r - c - r' = m' \sin 2 \alpha + n' \cos 2 \alpha$$

from which m' and n' may be found as before.

Second. If we assume for the moment, that all the stars observed, are situated on the same circle of declination, then any systematic deviations from an assumed system of right ascensions, may be expressed by a series of equations of the form :

$$r'' = c + [a \sin \delta + b \cos \delta] + [a' \sin 2 \delta + b' \cos 2 \delta] + \&c.$$

since the residuals r then become periodic circular functions with respect to a great circle of declination. In this discussion, no account will be taken of the term $[a' \sin 2 \delta + b' \cos 2 \delta]$. The equations therefore will assume the form :

$$r'' = c + a \sin \delta + b \cos \delta$$

in which c is supposed to have the same value as under the first hypothesis.

Third. When only the effect of the distribution of the stars over the whole heavens upon the errors under consideration is considered, we may combine the equations under the two preceding hypotheses. We shall then have a series of equations of the form :

$$r = c + [m \sin \alpha + n \cos \alpha] + [m' \sin 2 \alpha + n' \cos 2 \alpha] + [a \sin \delta + b \cos \delta]$$

in which the unknown quantities must be obtained by successive approximations. The solution may conveniently proceed in the following order :

- [1] $r - c = r' = m \sin \alpha + n \cos \alpha$
- [2] $r - c - r' = r'' = a \sin \delta + b \cos \delta$
- [3] $r - c - r'' = r''' = m' \sin 2 \alpha + n' \cos 2 \alpha$
- [4] $r - c - r''' - r'' = r^{IV} = m' \sin 2 \alpha + n' \cos 2 \alpha$

The approximate values of m and n will be found from equations [1]. Sufficiently accurate values of a and b will be obtained from equations [2], the original residuals r , having been corrected for errors depending on the right ascension.

The true values of m and n will be found from equations [3], the original residuals r , having been corrected for errors depending on the declination.

Equations [4] will furnish the values of m' and n' .

STANDARD SYSTEM OF RIGHT ASCENSIONS.

The standard system of right ascensions chosen, with which all other systems will be compared, is that derived by Professor Newcomb, and published in the Volume of the Washington Observations for 1870. To the tabular values there given, have been applied the following system of corrections, derived from a discussion of the following authorities; the details of which may be found in the Proceedings of the American Academy of Arts and Sciences, Vol. IX. page 127:—

GREENWICH: 1858–1870.

WASHINGTON I.: 1862–1870.

WASHINGTON II.: 1858–1861.

PARIS: 1858–1866.

MELBOURNE: 1858–1868.

BRUSSELS: 1858–1866.

OXFORD: 1858–1870.

EDINBURGH: 1860–1869.

HARVARD COLLEGE: 1871–1872.

Star.	R. A.		δ	Correction to Newcomb.
	<i>h.</i>	<i>m.</i>	<i>°</i>	<i>s.</i>
α Andromedæ	0	1.7	+28.4	— .002
γ Pegasi	0	6.6	+14.5	— .006
α Arietis	1	59.9	+22.9	— .003
α Ceti	2	55.5	+ 3.6	— .002
α Tauri	4	28.5	+16.2	+ .000
α Aurigæ	5	7.2	+45.9	— .021
β Orionis	5	9.3	— 8.4	+ .013
β Tauri	5	18.1	+28.5	+ .004
α Orionis	5	48.2	+ 7.4	+ .006
α Canis Majoris . . .	6	39.5	—16.5	+ .008
α Canis Minoris . . .	7	32.5	+ 5.6	+ .006
β Geminorum	7	37.4	+28.3	— .003
α Hydræ	9	21.2	— 8.1	— .002
α Leonis	10	1.5	+12.6	— .003
β Leonis	11	42.5	+15.3	— .003
α Virginis	13	18.4	—10.5	— .003
α Bootis	14	9.8	+19.6	+ .004
α^2 Libræ	14	43.7	—15.5	+ .008
α Coronæ	15	29.2	+27.2	— .002
α Serpentis	15	37.9	+ 6.8	+ .004
α Scorpæ	16	21.5	—26.1	+ .001
α Herculis	17	8.8	+14.5	— .001
α Ophiuchi	17	28.9	+12.7	+ .005
α Lyræ	18	32.6	+38.7	— .008
γ Aquilæ	19	40.1	+10.3	+ .002
α Aquilæ	19	44.5	+ 8.5	— .002
β Aquilæ	19	49.0	+ 6.1	+ .004
α^2 Capricorni	20	10.9	—12.9	— .001
α Cygni	20	37.0	+44.8	— .012
α Aquarii	21	59.2	— 0.9	+ .004
α Piscis Aust.	22	50.5	—30.3	+ .011
α Pegasi	22	58.3	+14.5	+ .001

The authorities, which have been compared in order to derive the proper motions, are classified under the following groups : —

GROUP I.

BESSEL'S BRADLEY, 1755. — *Fundamenta Astronomiæ pro anno MDCCLV., deducta ex Observationibus viri incomparabilis James Bradley, in Specula Astronomica Grenovicensi, per annos 1750–1762 institutis.* Regiomonti, 1818.

GROUP II.

D'AGELET, 1783–85. — *Reduction of the Observations of Fixed Stars made by Joseph Lepaute D'Agelet, at Paris, in 1783–85, with a Catalogue of the corresponding Mean Places referred to the Equinox of 1800.0; by Benjamin Apthorp Gould.*

FEDORENKO, 1790. — *Positions moyennes pour l'Époque de 1790.0 des Étoiles Circumpolaires dont les Observations ont été publiées par Jérôme Lalande, dans les Mémoires de l'Académie de Paris de 1789 et 1790.* Par Ivan Fedorenko.

PIAZZI, 1800. — *Præcipuarum Stellarum inerrantium Positiones Mediæ ineunte Sæculo XIX., ex Observationibus habitis in Specula Panormitana, ab anno 1792 ad annum 1813.* Panormi, 1814.

LALANDE, 1800. — *A Catalogue of those Stars in the Histoire Céleste Française of Jérôme de Lalande for which Tables of Reduction to the Epoch 1800, have been published by Professor Schumacher. Reduced under the immediate superintendence of the late Francis Bailey, Esq., London, 1847.*

GROUP III.

ARGELANDER, 1830. — *DLX Stellarum Fixarum Positiones Mediæ ineunte anno 1830.*

AIRY, 1830. — *A Catalogue of 727 Stars, deduced from the Observations made at the Cambridge Observatory from 1828 to 1835; reduced to January 1, 1830. Memoirs of the Royal Astronomical Society of London, Vol. XI.*

POND, 1830. — *A Catalogue of 1112 Stars, reduced from Observations made at the Royal Observatory at Greenwich from the years 1816 to 1833.*

STRUVE, 1830. — *Stellarum Fixarum imprimis duplicium et multiplicium Positiones Mediæ, pro Epocha 1830.0, deducta ex Observationibus Meridianis Annis 1822 ad 1843 in Specula Dorpatensi institutis; Auctore F. G. W. Struve.*

FALLOWS, 1830. — *Results of the Observations made by the Rev. Fearon Fallows at the Royal Observatory, Cape of Good Hope, in the years 1829, 1830, 1831. Reduced under the Superintendence of G. B. Airy, Esq., Astronomer Royal. Memoirs of the Royal Astronomical Society of London, Vol. XI.*

JOHNSON, 1830. — *A Catalogue of 606 Principal Fixed Stars in the Southern Hemisphere, deduced from Observations made at the Observatory, St. Helena, from November, 1829, to April, 1833, by Manuel J. Johnson.*

TAYLOR, 1835. — *A General Catalogue of the Principal Fixed Stars, from Observations made at the Honorable, the East India Company's Observatory at Madras, in the years 1830–1843, by Thomas Glanville Taylor, Esq., F.R.S., F.R.A.S.*

EDINBURGH, 1840. — *A Catalogue of Stars derived from the Annual Volumes of the Edinburgh Observations, from 1833 to 1839, reduced to 1840.0, by Mr. L. Waldo.*

- ROBINSON, 1840. — Places of 5345 Stars observed from 1828 to 1854 at the Armagh Observatory, by Rev. T. R. Robinson, D.D., F.R.S., F.R.A.S., &c.
- GILLISS, 1840. — Catalogue of 1248 Stars observed at Washington between October, 1838, and July, 1842; reduced to the Middle Epoch, January 1, 1840.
- CAMBRIDGE, 1840. — A Catalogue of Stars derived from the Annual Volumes of the Cambridge Observations, from 1836 to 1841, reduced to 1841.0, by Mr. L. Waldo.
- GREENWICH, 1840. — Catalogue of 2156 Stars, formed from the Observations made during twelve years, from 1836 to 1847, at the Royal Observatory, Greenwich.
- CAMBRIDGE, 1845. — A Catalogue of Stars derived from the Annual Volumes of the Cambridge Observations, from 1843 to 1848, reduced to 1845.0, by Mr. L. Waldo.
- OXFORD, 1845. — The Radcliffe Catalogue of 6317 Stars, chiefly Circumpolar, reduced to the epoch 1845.0; formed from the Observations made at the Radcliffe Observatory under the Superintendence of Manuel J. Johnson, M.A., late Radcliffe Observer.
- GREENWICH, 1845. — Catalogue of 2156 Stars, formed from the Observations made during twelve years, from 1836 to 1847, at the Royal Observatory, Greenwich.
- PULKOVA, 1845. — Observations de Poulkova, publiées par Otto Struve, Directeur de l'Observatoire Central Nicolas. Volumes I. and IV.

GROUP IV.

- ARGELANDER, 1866. — Mittlere Positionen für 1866.0 der gemeinschaftlich zu beobachtenden Sterne (Astr. Nachr. No. 1540), abgeleitet aus den Beobachtungen am Bonner Meridiankreise. Astr. Nachr. No. 1719.
- ENGELMANN, 1866. — Mittlere Positionen für 1866.0 der Argelander'schen Vergleichsterne (Astr. Nachr. No. 1540), abgeleitet aus Beobachtungen am Leipziger Meridiankreise. Astr. Nachr. No. 1748.
- MELBOURNE, 1870. — First Melbourne General Catalogue of 1227 Stars for the Epoch 1870, deduced from Observations extending from 1863 to 1870, made at the Melbourne Observatory, under the direction of Robert J. Ellery, Government Astronomer to the Colony of Victoria. Reduced and prepared for publication by Mr. E. J. White, First Assistant Astronomer.
- BRUHNS, 1870. — A Catalogue of Stars in Declination, derived from Observations made at Greenwich, Leipsic and Leiden; reduced to 1870.0.
- GREENWICH, 1872. — Greenwich Observations for 1871-72-73, reduced to 1872.0.
- WASHINGTON, 1872. — Washington Observations for 1871-72-73, reduced to 1872.0.
- OXFORD, 1872. — Radcliffe Observations for 1871-72, reduced to 1872.0.
- HARVARD COLLEGE, 1872. — Volume X.; Observations made at Harvard College Observatory.

Table I. contains the residuals, in thousandths of seconds of time, found by subtracting the right ascensions of the standard stars as they are given in the various catalogues, from the right ascensions of the Standard Catalogue for the corresponding epochs of observation, *after* the observations have been reduced to Newcomb's equinox by adding the reduction *c*.

The residuals derived from the following authorities (Proceedings of the American Academy of Arts and Sciences, Vol. IX. page 160) are added for convenience of reference, though the observations do not enter into the determination of the proper motions of the secondary catalogue of stars.

WASHINGTON, 1858-61. — Mean Right Ascensions for 1860.0; Washington Observations for 1871.

PARIS, 1858-66. — Mean Right Ascensions, derived from the Annual Volumes from 1858 to 1866.

BRUSSELS, 1858-66. — Mean Right Ascensions, derived from the Annual Volumes from 1858 to 1866.

EDINBURGH, 1860-69. — Mean Right Ascensions, derived from the Annual Volumes from 1860 to 1869.

TABLE I.

NAME OF STAR.	Bessel's Bradley, 1755. c = — .012.	D'Agelet, 1783-85. c = — .034.	Piazzi, 1800. c = + .110.	Lalande, 1800. c = + .000.	Argelander, 1830. c = + .018.	Pond, 1830. c = — .054.	Struve, 1830. c = — .045.	Fallows, 1830. c = + .019.	Johnson, 1830. c = — .058.	Airy, 1830. c = — .026.	Taylor, 1835. c = — .055.	Edinburgh, 1840. c = + .037.	Gillis, 1840. c = + .008.
<i>a</i> Andromedæ . . .	— 84	+276	+ 68	+ 70	—18	— 16	+65	....	—72	—34	— 15	—32	+ 18
γ Pegasi . . .	+111	—138	— 28	— 90	—28	— 56	—35	....	—42	....	— 45	— 7	+ 29
<i>a</i> Arietis . . .	— 61	+280	+ 52	+310	— 8	+ 4	—15	....	+ 8	—14	— 5	—19	— 2
<i>a</i> Ceti . . .	— 8	+ 15	— 8	—320	+ 2	+ 44	—15	....	— 2	+ 6	+ 25	+ 8	— 8
<i>a</i> Tauri . . .	— 27	+ 38	+ 92	+260	+ 2	— 6	+25	+141	— 2	—14	+ 55	—15	+ 38
<i>a</i> Aurigæ . . .	— 28	—116	+ 39	— 50	+ 2	+ 24	+55	....	—52	—44	+105	—39	....
β Orionis . . .	+ 48	—167	— 5	+ 90	+32	+ 24	—45	+ 31	—22	+16	+ 15	—10	+ 55
β Tauri . . .	+157	— 90	+ 19	+ 0	— 8	— 6	+15	....	+18	—14	+ 45	—17	— 83
<i>a</i> Orionis . . .	+ 46	+144	— 72	— 20	— 8	— 6	+15	+ 11	+18	—34	+ 25	—15	— 34
<i>a</i> Canis Majoris	+ 96	+110	+ 78	+110	+22	+104	—15	+ 41	— 2	+ 6	+ 85	+28	+112
<i>a</i> Canis Minoris	— 45	+ 0	—105	—320	+22	—146	— 5	+ 1	— 2	— 4	— 75	+23	— 52
β Geminorum . .	—110	— 88	+ 42	+ 70	— 8	— 56	+25	....	— 2	+16	— 15	—15	—119
<i>a</i> Hydræ . . .	—128	— 81	— 11	—260	— 8	— 66	—25	— 49	—42	—44	—105	— 2	— 56
<i>a</i> Leonis . . .	—109	— 59	+ 33	—140	+ 2	— 46	+ 5	— 29	— 2	+36	— 25	+ 5	—103
β Leonis . . .	— 89	— 42	— 34	+110	— 8	— 26	— 5	+ 71	—12	+ 6	— 55	+11	+ 34
<i>a</i> Virginis . . .	— 31	—[343]	— 44	—230	+ 2	+ 34	— 5	— 39	+18	—14	— 55	+11	— 53
<i>a</i> Bootis . . .	— 26	+ 7	+ 55	+130	+ 2	+ 24	+15	....	+48	— 4	+ 85	— 7	— 16
α^2 Libræ . . .	+208	—232	— 48	+ 20	+12	— 36	+15	— 39	+48	— 4	— 45	+15	— 42
<i>a</i> Coronæ . . .	— 56	+ 21	+124	+ 90	—18	+ 4	—15	....	—12	—24	+ 25	—21	+ 21
<i>a</i> Serpentis . .	+127	+ 9	+ 0	— 30	— 8	+ 4	—45	....	— 2	—34	+ 5	+ 1	+ 36
<i>a</i> Scorpii . . .	+ 95	+ 50	—200	+ 60	+32	+114	—45	+ 21	+ 8	—14	— 55	+13	— 35
<i>a</i> Herculis . . .	— 24	— 44	+111	— 70	—18	+ 24	—35	....	+68	+26	+ 5	+ 1	+ 62
<i>a</i> Ophiuchi . .	—170	— 25	+ 32	....	— 8	+ 4	—15	....	....	+ 6	— 5	+ 8	+ 19
<i>a</i> Lyræ . . .	— 35	+ 80	+ 11	— 80	— 8	— 16	+55	....	—42	+ 6	— 15	—17	....
γ Aquilæ . . .	+171	—[373]	— 2	+ 80	— 8	+ 14	—25	— 19	+48	....	— 15	+11	+ 31
<i>a</i> Aquilæ . . .	+ 0	— 7	— 54	+ 40	— 8	— 16	— 5	— 29	— 2	+ 6	— 25	+21	+ 44
β Aquilæ . . .	+155	—102	+ 2	—150	+ 2	— 16	— 5	— 69	+48	+66	— 15	+15	+ 11
α^2 Capricorni . .	— 9	+108	—106	+150	+22	+ 34	—45	— 19	— 2	+66	+ 15	+15	+ 38
<i>a</i> Cygni . . .	—116	+ 46	+ 92	—300	+ 2	— 26	+75	....	— 2	+16	— 35	—45	....
<i>a</i> Aquarii . . .	—105	+107	— 73	+ 60	+22	— 26	— 5	— 19	—12	— 4	— 5	— 7	+ 40
<i>a</i> Piscis Aust. . .	+ 39	+ [632]	— 50	+410	....	+144	....	....	....	....	+135	+63	+ 39
<i>a</i> Pegasi . . .	+ 12	— 7	+ 1	+180	— 8	— 26	+25	....	+ 8	+26	— 15	+23	— 1

TABLE I. — *Continued.*

NAME OF STAR.	Cambridge, 1840. $c = -.074^s$	Greenwich, 1840. $c = +.075^s$	Pulkova, 1845. $c = +.019^s$	Oxford, 1845. $c = -.002^s$	Cambridge, 1845. $c = -.019^s$	Greenwich, 1845. $c = +.018^s$	Greenwich, 1858-70. $c = +.028^s$	Washington, I. 1858-70. $c = +.008^s$	Washington, II. 1858-61. $c = +.057^s$	Oxford, 1858-70. $c = +.029^s$	Melbourne, 1870. $c = +.040^s$	Harvard College, 1872. $c = +.019^s$	Paris, 1858-66. $c = +.036^s$	Brussels, 1858-66. $c = +.056^s$	Edinburgh, 1860-69. $c = +.036^s$
α Andromedæ . . .	-13	+85	-4	+82	-8	+2	-10	+12	+30	+34	+21	+28	+21	+21	-3
γ Pegasi . . .	....	+5	-6	+32	....	+12	+12	+11	+9	+37	+16	-5	+24	+7	-14
α Arietis . . .	-16	+5	-22	+62	-24	-38	+1	+5	-2	-16	+13	+28	+8	+17	-7
α Ceti . . .	-24	-55	-3	-18	+12	+12	-4	-25	+2	-1	-2	+8	-3	-12	+24
α Tauri . . .	+13	-55	+24	+22	-6	-48	-12	+1	-26	-11	-15	+12	-17	-24	-11
α Aurigæ . . .	....	-85	-15	+52	....	-68	-18	+10	-20	+8	-75	+50	-26	-11	....
β Orionis . . .	-23	-15	+4	+42	+11	-8	+9	-2	-86	-11	-38	-16	-47	-51	+29
β Tauri . . .	+35	-25	+0	+22	+1	-18	-15	+12	+31	-12	-30	+17	-3	-51	-66
α Orionis . . .	+4	-45	+21	-48	+26	-18	-8	-4	-34	-26	-54	-23	-19	-36	+0
α Canis Majoris . . .	....	+5	+24	+22	-4	+2	+2	-8	-95	-28	-38	....	-45	-68	....
α Canis Minoris . . .	-3	-5	-18	-108	-8	-28	-6	-28	-71	-13	-87	-23	-22	-51	+4
β Geminorum . . .	+29	-55	-9	-98	+14	-28	-18	-11	-34	-19	-56	-11	-14	-38	-39
α Hydræ . . .	-33	-25	-9	-58	-33	-28	-17	-20	-56	-22	-42	-31	-50	-56	+45
α Leonis . . .	+7	-75	+1	-108	-16	-28	-13	-18	-55	-7	-45	-2	-32	-33	-29
β Leonis . . .	+26	-25	-12	-48	-4	+12	-23	-18	+7	-21	-6	+8	-16	-27	-37
α Virginis . . .	-34	-5	-20	-58	-23	+2	+5	-17	-36	-36	-29	+9	-20	-2	+37
α Bootis . . .	-10	-5	-8	-18	+2	+2	+0	+0	+9	-28	+14	-5	+9	-7	-26
α^2 Libræ . . .	-1	-5	+26	-88	-29	-8	+0	+1	+2	-17	-11	-43	-17	+14	....
α Coronæ . . .	+16	+15	+1	+42	+11	+2	-6	+9	+51	-11	+42	+19	+24	+4	-43
α Serpentis . . .	-4	+35	+7	+2	+1	+22	+7	+5	+20	-1	+20	-5	-2	+3	+7
α Scorpii . . .	-28	-15	+12	-28	-23	-8	+12	+2	-25	+3	+22	+1	-36	+25	....
α Herculis . . .	+32	+25	+21	+2	-11	+42	-13	+3	+28	+29	+31	+9	+14	+56	-15
α Ophiuchi . . .	+31	+15	+29	+52	-9	+22	-6	+18	+29	+7	+34	-5	+16	+38	+11
α Lyræ . . .	....	+15	-27	+62	....	+22	+2	+12	+89	+17	+63	+4	+47	+18	+3
γ Aquilæ . . .	....	+35	-6	+42	+13	+32	+13	+3	+42	+22	+45	-8	+22	+31	+24
α Aquilæ . . .	-9	+5	-9	+52	+16	+22	+4	+9	+35	+19	+38	+28	+27	+24	+29
β Aquilæ . . .	+21	+45	+6	....	+19	+32	+6	+4	+32	+13	+42	+15	+30	+47	+12
α^2 Capricorni . . .	-4	+58	-4	+2	+21	+22	+12	+21	+49	+14	+10	....	-1	+76	....
α Cygni . . .	....	+15	-33	-28	....	+2	+6	+16	+14	+27	+74	+17	+50	+16	+15
α Aquarii . . .	-28	+25	+4	-8	+39	+22	+28	+13	+36	+18	+9	-24	+26	+39	+47
α Piscis Aust. . . .	....	+95	....	+82	....	+32	+34	-15	+19	+18	+16	-58	+25	+15	....
α Pegasi . . .	+2	+5	+13	+42	+1	+12	+11	+1	+8	+28	+17	-9	+36	+29	+6

From equations [1], [2], [3], and [4], substituting for r the residuals of Table I., the following equations for reducing each catalogue of right ascensions to Newcomb's system, are derived. The value of the constant c , which was in the first instance subtracted from r , is here restored. It is to be understood that C represents a *correction* to the various catalogues.

$$\begin{aligned} \text{BRADLEY, 1755. . . . } C = & - .012 - .011 \sin a + .016 \cos a \\ & - .108 \sin \delta + .016 \cos \delta \end{aligned}$$

$$\begin{aligned} \text{D'AGELET, 1784. . . . } C = & - .034 - .008 \sin a + .066 \cos a \\ & + .020 \sin \delta - .004 \cos \delta \end{aligned}$$

$$\begin{aligned} \text{PIAZZI, 1800. } C = & + .110 + .005 \sin a - .001 \cos a \\ & + .139 \sin \delta - .023 \cos \delta \end{aligned}$$

$$\begin{aligned} \text{LALANDE, 1800. . . . } C = & + .000 - .010 \sin a + .071 \cos a \\ & - .082 \sin \delta + .008 \cos \delta \end{aligned}$$

$$\begin{aligned} \text{ARGELANDER, 1830. . . } C = & + .018 + .003 \sin a + .001 \cos a \\ & - .002 \sin 2a - .005 \cos 2a \\ & - .029 \sin \delta + .005 \cos \delta \end{aligned}$$

$$\begin{aligned} \text{AIRY, 1830. } C = & - .026 - .010 \sin a + .010 \cos a \\ & - .016 \sin 2a - .003 \cos 2a \\ & - .013 \sin \delta + .001 \cos \delta \end{aligned}$$

$$\begin{aligned} \text{POND, 1830. } C = & - .054 - .008 \sin a + .016 \cos a \\ & + .028 \sin 2a - .007 \cos 2a \\ & - .075 \sin \delta + .009 \cos \delta \end{aligned}$$

$$\begin{aligned} \text{STRUVE, 1830. } C = & - .045 + .004 \sin a + .001 \cos a \\ & - .007 \sin 2a + .004 \cos 2a \\ & + .073 \sin \delta - .015 \cos \delta \end{aligned}$$

$$\text{FALLOWS, 1830. . . . } C = + .019 + .030 \sin a + .013 \cos a$$

$$\begin{aligned} \text{JOHNSON, 1830. . . . } C = & - .058 - .012 \sin a - .008 \cos a \\ & + .006 \sin 2a - .008 \cos 2a \\ & - .020 \sin \delta + .004 \cos \delta \end{aligned}$$

$$\begin{aligned} \text{TAYLOR, 1835. . . . } C = & - .055 + .018 \sin a + .018 \cos a \\ & + .021 \sin 2a - .013 \cos 2a \\ & - .002 \sin \delta + .000 \cos \delta \end{aligned}$$

$$\begin{aligned} \text{EDINBURGH, 1840. . . } C = & + .037 - .004 \sin a + .001 \cos a \\ & - .006 \sin 2a + .002 \cos 2a \\ & - .050 \sin \delta + .008 \cos \delta \end{aligned}$$

$$\text{ROBINSON, 1840. . . . } C = + .020 \quad . \quad . \quad . \quad . \quad . \quad . \quad .$$

$$\begin{aligned} \text{GILLISS, 1840. . . . } C = & + .008 - .019 \sin a + .031 \cos a \\ & - .005 \sin 2a - .008 \cos 2a \\ & - .032 \sin \delta - .002 \cos \delta \end{aligned}$$

$$\begin{aligned} \text{CAMBRIDGE, 1840. . . } C = & - .074 - .003 \sin a - .007 \cos a \\ & - .004 \sin 2a - .012 \cos 2a \\ & + .050 \sin \delta - .006 \cos \delta \end{aligned}$$

$$\begin{aligned} \text{GREENWICH, 1840. . . } C = & + .075 - .031 \sin a + .025 \cos a \\ & - .004 \sin 2a + .005 \cos 2a \\ & - .028 \sin \delta - .001 \cos \delta \end{aligned}$$

$$\begin{aligned} \text{CAMBRIDGE, 1845. . . } C = & - .019 - .001 \sin a + .014 \cos a \\ & - .006 \sin 2a - .005 \cos 2a \\ & + .006 \sin \delta - .001 \cos \delta \end{aligned}$$

$$\begin{aligned} \text{OXFORD, 1845. . . . } C = & - .002 - .015 \sin a + .052 \cos a \\ & + .021 \sin 2a - .009 \cos 2a \\ & + .022 \sin \delta - .007 \cos \delta \end{aligned}$$

$$\begin{aligned} \text{GREENWICH, 1845. . . } C = & + .018 - .025 \sin a + .007 \cos a \\ & - .003 \sin 2a + .003 \cos 2a \\ & - .023 \sin \delta + .002 \cos \delta \end{aligned}$$

$$\begin{aligned} \text{PULKOVA, 1845. . . . } C = & + .019 + .001 \sin a + .001 \cos a \\ & + .006 \sin 2a - .006 \cos 2a \\ & - .024 \sin \delta + .005 \cos \delta \end{aligned}$$

$$\begin{aligned} \text{ARGELANDER, 1866. . . } C = & - .008 - .015 \sin a - .003 \cos a \\ & + .053 \sin \delta - .002 \cos \delta \end{aligned}$$

$$\begin{aligned} \text{ENGELMANN, 1866. . . } C = & - .016 - .009 \sin a + .018 \cos a \\ & - .049 \sin \delta + .030 \cos \delta \end{aligned}$$

$$\begin{aligned} \text{MELBOURNE, 1870. . . } C = & + .040 - .042 \sin a + .019 \cos a \\ & + .007 \sin 2a + .002 \cos 2a \\ & - .005 \sin \delta + .001 \cos \delta \end{aligned}$$

$$\begin{aligned} \text{GREENWICH, 1872. . . } C = & + .028 - .007 \sin a + .011 \cos a \\ & - .001 \sin 2a + .001 \cos 2a \\ & - .024 \sin \delta + .003 \cos \delta \end{aligned}$$

$$\begin{aligned} \text{WASHINGTON, 1872. . . } C = & + .008 - .009 \sin a + .007 \cos a \\ & + .002 \sin 2a - .005 \cos 2a \\ & + .016 \sin \delta - .004 \cos \delta \end{aligned}$$

$$\begin{aligned} \text{OXFORD, 1872. . . . } C = & + .029 - .014 \sin a + .021 \cos a \\ & - .005 \sin 2a + .000 \cos 2a \\ & + .011 \sin \delta - .004 \cos \delta \end{aligned}$$

$$\begin{aligned} \text{HARVARD COLLEGE, 1872. } C = & + .019 - .003 \sin a + .002 \cos a \\ & + .008 \sin 2a - .002 \cos 2a \\ & + .048 \sin \delta - .010 \cos \delta \end{aligned}$$

$$\begin{aligned} \text{WASHINGTON II., 1860. } C = & + .057 - .042 \sin a + .019 \cos a \\ & + .005 \sin 2a + .001 \cos 2a \\ & + .047 \sin \delta - .012 \cos \delta \end{aligned}$$

$$\begin{aligned} \text{PARIS, 1858-1866. . . } C = & + .036 - .024 \sin a + .021 \cos a \\ & - .001 \sin 2a + .005 \cos 2a \\ & + .034 \sin \delta - .008 \cos \delta \end{aligned}$$

$$\begin{aligned} \text{BRUSSELS, 1858-1866. . } C = & + .056 - .039 \sin a + .022 \cos a \\ & + .003 \sin 2a + .001 \cos 2a \\ & - .001 \sin \delta - .003 \cos \delta \end{aligned}$$

$$\begin{aligned} \text{EDINBURGH, 1860-1869. } C = & + .036 - .013 \sin a + .016 \cos a \\ & - .007 \sin 2a - .002 \cos 2a \\ & - .087 \sin \delta + .018 \cos \delta \end{aligned}$$

ON THE SYSTEMATIC ERRORS IN DECLINATION.

First. If we assume that any observed system of declinations is free from errors depending on the right ascension, then any systematic deviations from an assumed system, may be expressed approximately by a series of equations of the form :

$$r_2 = c_1 + a_1 \sin \delta + b_1 \cos \delta$$

Second. If we assume that the observed system is free from errors depending on the declination, then any systematic deviations from the assumed system, may be expressed approximately by a series of equations of the form :

$$r_3 = c_1 + a_2 \sin \alpha + b_2 \cos \alpha$$

Third. The systematic deviations from the assumed system, when the errors depending on both the right ascension and declination are taken into account, may be expressed approximately by a series of equations of the form :

$$r_1 = c_1 + [a_1 \sin \delta + b_1 \cos \delta] + [a_2 \sin \alpha + b_2 \cos \alpha]$$

The constant c_1 , may be derived from the equations by least squares, but it will be better to consider it as the residual belonging to the zenith of the place of observation.

STANDARD SYSTEM OF DECLINATIONS.

The standard system of declinations chosen, with which all the observed systems which enter into the determinations of proper motion, will be compared, is that furnished by the Gesellschaft, for the reduction of the zone observations now being made in the survey of the northern heavens. The stars selected, are those found in the Primary Catalogue at the end of this volume. The positions of those which appear in the list of "Pulkowaer Hauptsterne," are taken from the 4th volume of the Vierteljahrsschrift, page 324. The positions of the stars common to the "Zusatz-Sterne" are derived from the "Neue Bestimmung der Mittlern Oerter der Zusatzsterne nach Beobachtungen auf der Pulkowaer Sternwarte" ("Verzeichniss II des IX. Bandes der Vierteljahrsschrift"). The positions for 1875.0, were carried back to the epochs of the different catalogues, by means of Bessel's constants of precession and the proper motions of the Gesellschaft. The precessions in declination were first computed for 1810, 1830, and 1850 by means of the Washington Tables for 1850. In order to avoid the effect of erroneous proper motions, the right ascensions employed in the reduction were taken from Piazzini 1810, Pond 1830, and Greenwich 1850. With the aid of the following table given by Argelander for adapting the Washington Tables to Bessel's constants of precession for any epoch, the computation becomes extremely simple :

Year.	Correction to be applied to $\log \tan \delta$.	Factor of $\frac{d\delta}{d\tau}$ in units of the 4th decimal place.
1750	+174	+4.0
1755	+163	+3.8
1790	+ 90	+2.1
1800	+ 69	+1.6
1810	+ 48	+1.1
1825	+ 16	+0.4
1830	+ 6	+0.1
1835	— 5	—0.1
1840	— 15	—0.3
1845	— 26	—0.6
1850	— 36	—0.8
1855	— 47	—1.1
1860	— 57	—1.3
1865	— 67	—1.5
1870	— 78	—1.8
1875	— 89	—2.1

The values thus computed were checked by means of the precessions of the Gesellschaft for 1870. The entire precession was computed with the annual variation for the middle date. The effect of second differences in $10 \frac{d\delta}{d\tau}$ was taken into account for stars near the pole.

The standard catalogue extends only to 10° south declination. While the uncertainty of the refraction for stars below this limit, will exclude them from the general system upon which this discussion will rest, it is nevertheless desirable to have the means of comparing the continuation of the general system finally adopted, directly with observation. A catalogue was therefore formed depending on the following authorities:

PULKOVA, 1845.

CAPE OF GOOD HOPE, 1860.

CAPE OF GOOD HOPE, 1830.

MELBOURNE, 1870.

The Cape of Good Hope and the Melbourne Observations were reduced to 1845 by means of the precessions for the middle dates. The Pulkova proper motions were used for all stars found in the Pulkova Catalogue. For the remainder, the Melbourne values were adopted. From a comparison of the observations, the following residuals were obtained:

	No. Stars.	Mean δ	$\Delta \delta$
Pulkova minus Melbourne,	10	—11.4°	—0.93"
	7	—20.9	—1.30
Pulkova minus Cape of Good Hope,	13	—11.9	—1.20
	11	—20.1	—1.28
Pulkova minus St. Helena,	13	— 8.6	+1.24
	14	—13.0	+0.54
	9	—18.0	—0.54
	8	—23.9	—1.21

The reduction to Pulkova is represented by the following equations:

$$\begin{aligned} \text{Melbourne,} \quad r &= +2.44'' \sin \delta - 0.45'' \cos \delta \\ \text{Cape of Good Hope,} \quad r &= +1.08 \sin \delta - 0.97 \cos \delta \\ \text{St. Helena,} \quad r &= +8.40 \sin \delta + 2.49 \cos \delta \end{aligned}$$

The systematic corrections derived from these equations were then applied to the observations themselves, and from a combination of the results derived from the four authorities, the following catalogue of standard declinations for southern stars was formed:

STAR.	R. A.		Mean δ for 1845.0.			Pulkova, 1845.	Melbourne, 1845.	Cape, 1845.	St. Helena, 1845.
	<i>h.</i>	<i>m.</i>	$^{\circ}$	$'$	$''$	$''$	$''$	$''$	$''$
β Ceti	0	37	—18	50	19.03	.....	19.2	19.0	18.9
α Sculptoris . .	0	52	—30	11	48.25	.....	48.0	.....	48.5
α Leporis . . .	5	27	—17	56	16.50	.....	17.0	16.2	16.3
α Columbæ . . .	5	35	—34	9	38.03	.....	36.7	37.9	39.5
ζ Leporis . . .	5	39	—14	53	3.90	3.4	.....	.....	4.4
β Columbæ . . .	5	46	—35	49	49.40	.....	49.4	49.4	49.4
γ Columbæ . . .	5	53	—35	18	13.87	.....	13.3	13.1	15.2
θ Columbæ . . .	6	3	—37	14	5.80	.....	5.8	.....	.....
β Canis Majoris .	6	15	—17	53	1.65	1.0	.....	.....	2.3
ϵ Canis Majoris .	6	54	—28	45	54.87	.....	54.5	54.4	55.7
γ Canis Majoris .	6	57	—15	24	31.90	.....	32.0	31.3	32.4
δ Canis Majoris .	7	3	—26	9	4.90	.....	5.1	.....	4.7
η Canis Majoris .	7	19	—29	0	17.67	.....	17.4	17.4	18.2
ι Navis	8	2	—23	51	40.75	40.7	41.4	40.7	40.2
μ Hydræ	10	18	—16	2	49.75	49.9	49.6	.....	.....
α Antliæ	10	21	—30	16	50.83	.....	51.7	52.2	48.6
δ Crateris . . .	11	11	—13	56	26.02	26.6	25.3	25.8	26.4
α Corvi	12	2	—23	51	51.95	.....	53.3	.....	50.6
ϵ Corvi	12	3	—21	45	27.63	.....	28.4	27.7	26.8
β Corvi	12	27	—22	32	20.42	22.4	20.7	20.2	18.4
α^2 Libræ	14	43	—15	23	38.60	38.4	39.1	39.0	37.9
δ Lupi	15	12	—40	4	54.03	.....	52.2	53.8	56.1
δ Scorpïi . . .	15	52	—22	10	31.82	31.9	32.9	32.6	29.9
β Scorpïi . . .	15	58	—19	22	34.22	33.6	35.1	34.9	33.3
α Scorpïi . . .	16	21	—26	4	57.33	57.6	57.4	57.2	57.1
b Ophiuchi . . .	17	18	—24	1	36.65	.....	37.3	36.0	.....
γ^2 Sagittarii . .	17	57	—30	25	10.20	.....	9.7	.....	10.7
μ Sagittarii . .	18	6	—21	5	36.32	36.8	36.6	36.3	35.6
λ Sagittarii . .	18	18	—25	30	3.50	.....	4.1	2.9	.....
σ Sagittarii . .	18	47	—26	28	59.60	.....	59.6	59.4	59.8
π Sagittarii . .	19	2	—21	15	51.63	52.1	52.4	.....	50.4
β Piscis Australis	22	24	—33	8	19.45	.....	19.6	19.3	.....
ϵ Piscis Australis	22	33	—27	51	2.20	3.2	1.1	.....	2.3
α Piscis Australis	22	50	—30	26	33.13	.....	32.7	32.7	34.0
δ Sculptoris . .	23	42	—28	59	14.90	.....	14.9	.....	14.9

The following considerations have determined the choice of the Pulkova system of declinations as a standard of comparison.

First. It is without much doubt the most homogeneous system yet published. The standard system ought to have perfect continuity.

The following table will indicate approximately how far the continuity of the standard system chosen, is confirmed by observation. It is formed from the residuals $\Delta \delta$, given on the following pages.

TABLE II.

CHANGES IN THE VALUES OF THE RESIDUALS $\Delta \delta$, CORRESPONDING TO A CHANGE OF 10° IN DECLINATION.

AUTHORITIES.	$+5^\circ - (-5^\circ)$	$+15^\circ - 5^\circ$	$+25^\circ - 15^\circ$	$+35^\circ - 25^\circ$	$+45^\circ - 35^\circ$	$+55^\circ - 45^\circ$	$+65^\circ - 55^\circ$	$+75^\circ - 65^\circ$
	"	"	"	"	"	"	"	"
Bradley . . . 1755	-1.06	+0.44	-0.14	+0.11	+0.48	-0.13	+0.39	+1.05
D'Agelet. . . 1784	+0.33	+0.51	-0.63	-0.91	+2.44	.....	.....	.....
Piazzi . . . 1800	-0.47	-0.51	+0.53	+0.06	+1.67	+1.02	-0.16	+0.60
Lalande . . . 1800	+0.16	-0.43	+0.18	+0.38	+1.38	+0.62	+0.03	+0.93
Argelander . . 1830	+0.20	-0.20	+0.17	+0.06	+0.88	+0.03	+0.76	-0.50
Airy . . . 1830	+0.65	-0.38	-0.19	-0.65	+0.31	+1.00	+0.61	-0.07
Pond . . . 1830	-0.70	-0.26	+0.65	-0.49	+1.46	+0.17	+0.96	+0.24
Struve . . . 1830	-0.27	+0.29	+0.24	-0.30	+0.60	-0.02	+0.57	+0.61
Fallows . . . 1830	-0.30	.....	.....	.....	.....	.....	.....	.....
Johnson . . . 1830	-0.39	-0.48	+0.54	-0.75	+0.57	-0.47	+0.52	.....
Taylor . . . 1830	-0.63	+0.13	+0.32	+0.19	+0.68	+0.41	+0.71	-0.61
Edinburgh . . 1840	+0.31	-0.44	-0.06	-0.10	+0.57	-0.06	+0.38	+0.51
Robinson . . . 1840	-0.67	+0.24	+0.39	-1.07	+0.43	+0.75	+0.38	-0.06
Cambridge . . 1840	+0.42	-0.59	+0.63	-0.77	+0.59	+0.24	+1.04	+0.09
Greenwich . . . 1840	-0.39	-0.14	-0.05	-0.31	+0.52	+0.15	+0.23	+0.22
Cambridge . . 1845	-0.44	-0.44	+0.40	-0.73	+0.68	+0.21	.....	+0.99
Oxford . . . 1845	-0.78	-0.15	-0.55	+0.80	+0.04	+0.14	+0.91	+0.55
Greenwich . . . 1845	-0.31	+0.02	+0.02	-0.40	+0.44	+0.01	+0.70	-0.10
Pulkova . . . 1845	-0.23	+0.02	-0.04	+0.00	-0.04	-0.08	+0.25	+0.05
Argelander . . 1866	+0.20	+0.00	+0.12	+0.16	-0.50	-0.14	+0.96	+0.49
Engelmann . . 1866	+0.11	-0.19	-0.01	+0.45	-0.11	+0.28	-0.07	+0.59
Melbourne . . . 1870	-0.11	-0.20	+0.45	+0.56	+0.46	.....	.....	.....
Bruhns . . . 1870	+0.06	-0.05	-0.22	+0.27	-0.28	+0.04	+0.47	-0.02
Greenwich . . . 1872	+0.31	+0.07	+0.13	-0.26	+0.02	-0.46	+0.70	+0.11
Washington . . 1872	-0.02	+0.25	-0.41	+0.02	-0.08	+0.65	-0.46	+0.82
Oxford . . . 1872	-0.11	+0.03	-0.46	+0.43	-0.39	+0.21	+0.44	+0.10
Harvard College 1872	-0.43	+0.37	-0.26	-0.14	-0.14	-0.36	+0.60	-0.04
MEANS	-0.15	-0.09	+0.08	-0.14	+0.30	+0.13	+0.53	+0.23

In taking the means, the first four authorities have been excluded.

It is obvious that there is an apparent parting near the zenith of Pulkova. It is not to be inferred that this is necessarily due to the Pulkova observations. The error, if indeed it really exists, may have crept in through the proper motion. The observations were brought forward from 1845 with Mädler's proper motions, but they were

not carried back with the same values in every case. The remaining differences are sufficiently small to be accounted errors of observation, unless perhaps the change between 45° and 35° forms an exception.

Second. Even if this apparent break should be found to exist in the provisional catalogue, it will doubtless disappear from the new series of Pulkova observations of these stars, which are understood to be already completed, and in process of reduction. The errors in the positions of the Gesellschaft are for the most part due to the erroneous proper motions with which they have been brought forward from 1845. The new series, together with Auwers's re-reduction of Bradley's observations, will furnish data for an accurate determination of this element.

The present discussion of the proper motion, both in right ascension and in declination is to be regarded as provisional only. It depends upon the best data at present available. Besides the uncertainty which, to a certain degree, still attaches to the standard systems, there is a lack of observations of many stars under the fourth group. The positions adopted, ought as far as possible to have equal weight in each group. A final discussion, therefore, must be delayed till the publication of the additional data which has already accumulated. The final values of this element will be given in the volume containing the observations of the same stars made in 1874-5.

Table III. contains the residuals found by subtracting the declinations of each authority, from the positions of the standard system for the same epoch, arranged first in the order of declination, and second in the order of right ascension, excluding stars south of -10° . The values in the last column, with the heading $\Delta \delta_2$, have been found by subtracting from those of the preceding column the periodic portion only, of the errors depending on the declination, derived from the equations on pages l and li.

TABLE III.

Residuals in the order of Declination.			Residuals in the order of Right Ascension.				
Mean δ	No. of Stars.	$\Delta \delta$	Mean δ	Mean R. A.	No. of Stars.	$\Delta \delta_1$	$\Delta \delta_2$
CATALOGUE <i>minus</i> BRADLEY, 1755.							
— 23.0	25	— 0.26	+ 34.1	1.6	41	— 0.68	— 0.42
— 4.6	31	+ 0.03	+ 24.0	4.9	43	— 0.86	— 0.52
+ 5.3	35	— 1.03	+ 30.8	7.6	23	— 0.99	— 0.70
+ 15.2	39	— 0.59	+ 28.6	10.5	29	+ 0.07	+ 0.38
+ 25.0	38	— 0.73	+ 31.5	13.6	26	+ 0.11	+ 0.40
+ 35.5	30	— 0.62	+ 33.9	16.7	34	— 0.14	+ 0.13
+ 44.9	26	— 0.14	+ 29.4	19.5	32	— 0.17	+ 0.13
+ 55.1	20	— 0.27	+ 27.8	22.5	36	— 0.42	— 0.11
+ 65.1	18	+ 0.12					
+ 77.4	18	+ 1.17					
CATALOGUE <i>minus</i> D'AGELET, 1784.							
— 22.8	14	— 0.51	+ 19.4	1.7	20	— 1.73	+ 0.07
— 3.5	21	— 0.97	+ 20.8	4.7	25	— 0.94	+ 0.84
+ 5.6	28	— 0.64	+ 21.1	7.4	15	— 1.28	+ 0.49
+ 15.2	38	— 0.13	+ 21.1	10.4	22	— 0.82	+ 0.95
+ 24.9	34	— 0.76	+ 18.6	13.8	18	— 0.71	+ 1.11
+ 36.0	24	— 1.67	+ 18.1	16.2	23	+ 0.32	+ 2.15
+ 44.4	19	+ 0.77	+ 20.5	19.6	22	+ 0.74	+ 2.54
			+ 20.4	22.3	24	— 0.82	+ 0.98
CATALOGUE <i>minus</i> PIAZZI, 1800.							
— 24.8	33	— 2.50	+ 34.0	1.5	40	— 0.84	— 1.29
— 4.8	29	— 1.82	+ 24.4	4.8	44	— 1.03	— 1.04
+ 5.3	34	— 2.29	+ 31.0	7.7	23	— 1.16	— 1.46
+ 15.1	39	— 2.80	+ 28.0	10.5	32	— 1.21	— 1.40
+ 25.0	35	— 2.27	+ 31.8	13.6	24	— 1.38	— 1.73
+ 35.6	31	— 2.21	+ 34.0	16.7	33	— 2.33	— 2.78
+ 45.0	28	— 0.54	+ 29.4	19.6	32	— 2.72	— 2.96
+ 55.1	19	+ 0.48	+ 28.1	22.5	34	— 2.12	— 2.31
+ 64.7	17	+ 0.32					
+ 76.0	11	+ 0.92					
CATALOGUE <i>minus</i> LALANDE, 1800.							
— 21.9	20	— 2.41	+ 30.1	1.4	33	— 1.83	— 1.02
— 4.9	26	— 2.46	+ 19.1	4.5	37	— 1.83	— 0.57
+ 5.5	32	— 2.30	+ 28.4	7.7	23	— 1.50	— 0.64
+ 15.0	38	— 2.73	+ 29.3	10.5	25	— 1.32	— 0.49
+ 25.0	31	— 2.55	+ 31.5	13.7	20	— 2.05	— 1.30
+ 35.0	23	— 2.17	+ 33.5	16.3	32	— 2.09	— 1.43
+ 45.0	25	— 0.79	+ 28.6	19.2	24	— 2.42	— 1.56
+ 55.6	12	— 0.17	+ 27.4	22.5	30	— 1.72	— 0.80
+ 65.0	15	— 0.14					
+ 75.6	12	+ 0.79					

TABLE III. — *Continued.*

Residuals in the order of Declination.			Residuals in the order of Right Ascension.				
Mean δ	No. of Stars.	$\Delta \delta$	Mean δ	Mean R. A.	No. of Stars.	$\Delta \delta_1$	$\Delta \delta_2$
CATALOGUE <i>minus</i> ARGELANDER, 1830.							
— 18.2	5	— 1.92	+ 42.3	1.4	14	— 0.70	— 0.27
— 4.4	5	— 1.16	+ 32.9	4.6	11	— 0.43	+ 0.26
+ 5.2	18	— 0.96	+ 39.3	7.9	9	+ 0.20	+ 0.71
+ 15.0	16	— 1.16	+ 28.6	10.5	11	— 0.22	+ 0.58
+ 25.7	13	— 0.99	+ 34.5	13.8	13	— 0.52	+ 0.11
+ 35.4	15	— 0.93	+ 38.2	17.1	17	— 0.80	— 0.25
+ 46.3	14	— 0.05	+ 36.0	18.9	18	— 0.81	— 0.21
+ 55.0	13	— 0.02	+ 31.9	22.4	17	— 0.80	— 0.10
+ 65.4	11	+ 0.74					
+ 77.8	11	+ 0.24					
CATALOGUE <i>minus</i> AIRY, 1830.							
— 22.5	11	— 2.12	+ 26.8	1.3	15	— 0.34	— 0.11
— 4.9	12	— 0.96	+ 19.6	4.5	13	— 0.73	— 0.44
+ 5.8	17	— 0.31	+ 21.5	7.4	7	— 0.57	— 0.29
+ 15.2	16	— 0.69	+ 21.1	11.8	16	— 0.37	— 0.09
+ 24.9	11	— 0.88	+ 30.6	13.6	11	— 0.41	— 0.21
+ 34.8	3	— 1.53	+ 24.8	16.7	9	— 0.76	— 0.51
+ 45.2	6	— 1.22	+ 38.6	19.4	10	— 1.24	— 1.12
+ 54.7	6	— 0.22	+ 24.7	22.3	10	— 0.80	— 0.55
+ 64.7	8	+ 0.39					
+ 84.7	4	+ 0.32					
CATALOGUE <i>minus</i> STRUVE, 1830.							
— 20.3	3	— 1.67	+ 43.1	1.6	15	— 0.20	— 0.03
— 4.6	9	— 0.60	+ 32.1	4.6	19	— 0.35	+ 0.01
+ 5.4	11	— 0.87	+ 30.7	8.0	9	+ 0.06	+ 0.44
+ 15.2	14	— 0.58	+ 31.3	10.8	14	— 0.58	— 0.21
+ 26.3	10	— 0.34	+ 39.6	13.7	14	+ 0.15	+ 0.37
+ 35.7	17	— 0.64	+ 37.1	16.5	18	— 0.40	— 0.12
+ 46.1	14	— 0.04	+ 43.1	19.6	16	— 0.22	— 0.05
+ 55.2	11	— 0.06	+ 48.0	22.2	11	— 0.38	— 0.30
+ 65.1	15	+ 0.51					
+ 76.8	12	+ 1.12					
CATALOGUE <i>minus</i> FALLOWS, 1830.							
— 26.9	5	— 0.82	— 3.5	2.1	2	— 0.35	— 0.74
— 4.9	10	— 0.42	— 4.6	5.0	5	+ 0.36	— 0.04
+ 6.2	6	— 0.72	+ 5.7	7.5	1	+ 0.70	+ 0.39
			+ 3.1	10.8	5	— 0.14	— 0.47
			— 0.5	12.6	1	— 2.20	— 2.57
			+ 8.4	19.8	1	— 1.50	— 1.78
			— 3.7	21.7	2	— 1.10	— 1.49

TABLE III.—*Continued.*

Residuals in the order of Declination.			Residuals in the order of Right Ascension.				
Mean δ	No. of Stars.	$\Delta \delta$	Mean δ	Mean R. A.	No. of Stars.	$\Delta \delta_1$	$\Delta \delta_2$
CATALOGUE <i>minus</i> JOHNSON, 1830.							
— 4.9	28	+ 1.31	+ 11.7	1.3	9	+ 1.53	+ 1.27
+ 5.4	6	+ 0.92	+ 2.2	4.8	13	+ 1.69	+ 1.36
+ 15.0	9	+ 0.44	+ 22.1	7.5	3	+ 1.17	+ 0.97
+ 26.7	4	+ 0.98	+ 27.7	10.7	5	— 0.64	— 0.79
+ 34.7	3	+ 0.23	+ 27.5	13.8	3	+ 0.97	+ 0.81
+ 47.1	1	+ 0.80	+ 15.3	16.3	9	+ 0.28	+ 0.04
+ 57.7	6	+ 0.33	+ 15.5	19.4	10	+ 0.58	+ 0.34
+ 63.1	2	+ 0.85	+ 6.7	22.1	8	+ 1.54	+ 1.26
— 4.9	28	+ 1.31	.....	.....	.....	.....	.....
— 8.6	13	+ 1.24	.....	.....	.....	.....	.....
— 13.0	14	+ 0.54	.....	.....	.....	.....	.....
— 18.0	9	— 0.54	.....	.....	.....	.....	.....
— 23.9	8	— 1.21	.....	.....	.....	.....	.....
CATALOGUE <i>minus</i> POND, 1830.							
— 23.5	29	— 3.27	+ 30.5	1.6	28	— 1.15	— 0.39
— 4.5	28	— 1.28	+ 21.6	4.6	37	— 1.39	— 0.35
+ 5.5	33	— 1.98	+ 30.3	7.5	24	— 1.20	— 0.42
+ 15.1	37	— 2.24	+ 30.2	10.6	29	— 1.23	— 0.45
+ 25.0	31	— 1.59	+ 29.8	13.7	23	— 1.31	— 0.52
+ 35.6	28	— 2.08	+ 28.4	16.4	30	— 1.63	— 0.80
+ 44.9	22	— 0.62	+ 33.4	19.6	33	— 1.40	— 0.73
+ 55.2	15	— 0.45	+ 29.3	22.3	31	— 1.45	— 0.65
+ 64.5	14	+ 0.51					
+ 77.3	17	+ 0.75					
CATALOGUE <i>minus</i> TAYLOR, 1835.							
— 25.6	35	— 1.51	+ 26.0	1.5	33	— 0.68	— 1.48
— 4.5	30	— 0.52	+ 21.4	4.4	33	— 0.71	— 1.34
+ 5.5	35	— 1.15	+ 29.3	7.6	24	— 0.39	— 1.29
+ 15.2	39	— 1.02	+ 24.6	10.7	28	— 0.76	— 1.52
+ 25.0	34	— 0.70	+ 29.9	13.7	24	+ 0.05	— 0.87
+ 35.5	30	— 0.51	+ 31.4	16.6	33	+ 0.02	— 0.95
+ 45.2	25	+ 0.17	+ 30.4	19.5	31	— 0.47	— 1.42
+ 55.4	14	+ 0.58	+ 26.5	22.4	34	— 0.71	— 1.53
+ 64.6	14	+ 1.29					
+ 77.1	11	+ 0.68					
CATALOGUE <i>minus</i> EDINBURGH, 1840.							
— 4.5	16	— 0.63	+ 28.7	1.4	20	— 0.51	— 0.28
+ 6.0	24	— 0.32	+ 22.2	4.5	19	— 0.69	— 0.43
+ 14.9	37	— 0.76	+ 26.9	7.5	17	— 0.56	— 0.32
+ 24.2	20	— 0.82	+ 24.6	10.1	22	— 0.48	— 0.23

TABLE III. — *Continued.*

Residuals in the order of Declination.			Residuals in the order of Right Ascension.				
Mean δ	No. of Stars.	$\Delta \delta$	Mean δ	Mean R. A.	No. of Stars.	$\Delta \delta_1$	$\Delta \delta_2$
CATALOGUE <i>minus</i> EDINBURGH, 1840.							
+ 35.7	11	— 0.92	+ 30.2	13.0	13	— 0.31	— 0.09
+ 45.5	12	— 0.35	+ 30.5	16.5	12	— 0.74	— 0.53
+ 55.5	7	— 0.41	+ 26.9	19.8	18	— 0.51	— 0.27
+ 63.5	10	— 0.03	+ 23.6	22.4	23	— 0.69	— 0.43
+ 78.5	8	+ 0.48					
CATALOGUE <i>minus</i> ROBINSON, 1840.							
— 22.0	15	— 0.96	+ 29.5	1.8	30	— 0.40	— 0.34
— 4.9	20	— 0.22	+ 26.7	4.6	29	— 0.59	— 0.52
+ 5.1	29	— 0.89	+ 28.5	7.3	20	— 0.22	— 0.15
+ 15.1	24	— 0.65	+ 28.7	10.4	22	— 0.15	— 0.08
+ 26.5	28	— 0.26	+ 30.7	13.4	20	— 0.86	— 0.80
+ 35.5	23	— 1.33	+ 33.0	16.4	24	— 1.20	— 1.16
+ 44.5	26	— 0.90	+ 31.4	19.4	23	— 0.81	— 0.76
+ 55.3	15	— 0.15	+ 28.9	22.6	33	— 0.96	— 0.89
+ 65.1	12	+ 0.23					
+ 75.1	8	+ 0.17					
CATALOGUE <i>minus</i> GILLISS, 1840.							
— 24.9	28	— 0.69	+ 18.9	1.6	22	— 0.44	— 0.84
— 4.7	29	+ 0.11	+ 13.3	4.5	25	— 0.83	— 1.17
+ 5.6	29	— 0.69	+ 15.9	7.5	14	— 0.99	— 1.36
+ 14.8	33	— 1.41	+ 18.2	10.7	21	— 1.03	— 1.43
+ 25.2	32	— 1.25	+ 26.7	13.6	17	— 0.96	— 1.44
+ 31.2	4	— 2.00	+ 27.8	16.3	16	— 0.61	— 1.11
+ 41.7	1	— 1.50	+ 23.3	20.0	17	— 0.59	— 1.04
+ 57.0	6	— 0.03	+ 20.1	22.5	26	— 0.60	— 1.01
+ 63.9	9	+ 0.62					
+ 75.6	9	+ 0.84					
CATALOGUE <i>minus</i> CAMBRIDGE, 1840.							
— 4.6	17	— 1.22	+ 28.6	1.3	16	— 1.19	— 1.08
+ 6.0	22	— 0.80	+ 24.6	4.5	17	— 1.18	— 1.01
+ 15.0	21	— 1.39	+ 27.2	7.8	13	— 0.91	— 0.78
+ 24.1	20	— 0.76	+ 22.0	10.4	19	— 1.09	— 0.88
+ 36.3	7	— 1.53	+ 32.0	13.4	15	— 0.60	— 0.53
+ 46.0	9	— 0.94	+ 25.8	16.7	15	— 1.15	— 1.01
+ 56.5	6	— 0.70	+ 36.0	19.5	14	— 0.86	— 0.85
+ 64.0	9	+ 0.34	+ 22.5	22.7	18	— 0.90	— 0.71
+ 77.2	9	+ 0.43					

TABLE III. — *Continued.*

Residuals in the order of Declination.			Residuals in the order of Right Ascension.				
Mean δ	No. of Stars.	$\Delta \delta$	Mean δ	Mean R. A.	No. of Stars.	$\Delta \delta_1$	$\Delta \delta_2$
CATALOGUE <i>minus</i> GREENWICH, 1840.							
— 25.5	26	— 0.17	+ 33.6	1.5	26	— 0.48	— 0.41
— 4.3	15	+ 0.16	+ 30.5	4.6	25	— 0.36	— 0.28
+ 5.6	22	— 0.23	+ 35.4	7.5	20	— 0.24	— 0.17
+ 15.0	24	— 0.37	+ 30.0	10.5	24	— 0.09	— 0.01
+ 24.3	25	— 0.42	+ 35.0	13.7	16	+ 0.04	+ 0.11
+ 35.5	18	— 0.73	+ 38.3	16.5	22	— 0.20	— 0.13
+ 45.3	18	— 0.21	+ 40.5	19.1	23	— 0.23	— 0.16
+ 55.8	14	— 0.06	+ 26.5	22.4	25	— 0.17	— 0.09
+ 64.6	17	+ 0.17					
+ 77.4	18	+ 0.39					
CATALOGUE <i>minus</i> CAMBRIDGE, 1845.							
— 4.6	16	— 0.47	+ 28.5	1.5	18	— 0.82	— 0.57
+ 5.4	28	— 0.91	+ 23.6	4.7	22	— 0.95	— 0.71
+ 15.0	24	— 1.35	+ 29.3	7.7	12	— 1.29	— 1.03
+ 24.6	17	— 0.95	+ 24.3	10.7	20	— 1.03	— 0.79
+ 35.3	9	— 1.68	+ 29.8	13.4	18	— 1.00	— 0.74
+ 46.7	14	— 1.00	+ 26.0	15.5	15	— 1.04	— 0.79
+ 56.4	7	— 0.79	+ 28.4	19.6	11	— 0.99	— 0.74
+ 75.5	7	+ 0.20	+ 23.8	22.7	20	— 0.65	— 0.41
CATALOGUE <i>minus</i> OXFORD, 1845.							
— 23.8	17	— 1.03	+ 34.1	1.4	30	— 0.17	— 0.12
— 5.3	23	+ 0.19	+ 23.0	4.5	38	— 0.79	— 0.66
+ 5.6	28	— 0.59	+ 34.2	7.6	19	— 0.75	— 0.70
+ 15.1	25	— 0.74	+ 29.2	10.9	25	— 0.62	— 0.54
+ 24.4	19	— 1.29	+ 35.6	13.7	18	+ 0.15	+ 0.19
+ 36.5	13	— 0.49	+ 44.9	16.1	22	— 0.17	— 0.20
+ 45.1	25	— 0.45	+ 43.7	19.6	19	+ 0.08	+ 0.05
+ 55.5	17	— 0.31	+ 27.3	22.6	25	+ 0.09	+ 0.19
+ 64.8	16	+ 0.60					
+ 76.2	21	+ 1.15					
CATALOGUE <i>minus</i> GREENWICH, 1845.							
— 25.0	23	— 0.72	+ 32.0	1.5	25	— 0.43	— 0.38
— 4.5	19	— 0.14	+ 26.9	4.4	29	— 0.48	— 0.42
+ 5.6	27	— 0.45	+ 32.0	7.5	21	— 0.52	— 0.47
+ 14.7	27	— 0.43	+ 30.5	10.7	24	— 0.10	— 0.05
+ 24.9	26	— 0.41	+ 36.7	13.6	21	— 0.16	— 0.14
+ 36.3	17	— 0.81	+ 40.2	16.4	21	— 0.30	— 0.30
+ 45.1	20	— 0.37	+ 32.7	19.6	23	— 0.43	— 0.39
+ 55.3	16	— 0.36	+ 26.9	22.4	30	— 0.31	— 0.25
+ 64.0	15	+ 0.24					
+ 77.1	17	+ 0.24					

TABLE III. — *Continued.*

Residuals in the order of Declination.			Residuals in the order of Right Ascension.				
Mean δ	No. of Stars.	$\Delta \delta$	Mean δ	Mean R. A.	No. of Stars.	$\Delta \delta_1$	$\Delta \delta_2$
CATALOGUE <i>minus</i> PULKOVA, 1845.							
— 21.2	15	+ 0.05	+ 34.7	1.6	25	— 0.02	— 0.04
— 4.4	21	+ 0.19	+ 25.0	4.6	33	+ 0.09	+ 0.11
+ 5.3	33	— 0.04	+ 25.1	7.7	17	— 0.01	+ 0.01
+ 15.1	31	— 0.02	+ 32.3	10.5	25	— 0.16	— 0.11
+ 25.6	25	— 0.06	+ 31.5	13.7	22	+ 0.05	+ 0.10
+ 35.6	27	— 0.06	+ 30.8	16.2	31	— 0.07	— 0.02
+ 44.8	25	— 0.10	+ 28.0	19.5	28	— 0.05	— 0.02
+ 55.0	12	— 0.18	+ 22.8	22.5	23	+ 0.05	+ 0.07
+ 64.1	13	+ 0.07					
+ 76.7	13	+ 0.12					
CATALOGUE <i>minus</i> ARGELANDER, 1866.							
— 21.3	11	— 1.22	+ 27.3	1.6	16	— 0.40	— 0.70
— 4.4	14	— 0.82	+ 31.4	4.4	16	— 0.54	— 0.86
+ 5.3	16	— 0.62	+ 42.5	7.8	10	— 0.11	— 0.46
+ 14.7	10	— 0.62	+ 22.2	10.6	11	— 0.85	— 1.13
+ 24.7	10	— 0.50	+ 27.9	13.7	13	— 0.60	— 0.90
+ 35.0	10	— 0.34	+ 47.2	16.5	14	— 0.33	— 0.69
+ 46.1	10	— 0.84	+ 35.4	19.5	8	— 0.35	— 0.68
+ 53.9	10	— 0.98	+ 29.3	22.1	15	— 0.49	— 0.80
+ 64.4	11	— 0.02					
+ 76.3	10	+ 0.47					
CATALOGUE <i>minus</i> ENGELMANN, 1866.							
— 21.3	11	— 1.36	+ 27.3	1.6	16	— 0.01	+ 0.35
— 4.4	14	— 0.57	+ 31.4	4.4	16	— 0.47	— 0.15
+ 5.4	16	— 0.46	+ 42.5	7.8	10	— 0.33	— 0.11
+ 14.8	10	— 0.65	+ 22.2	10.6	11	— 0.69	— 0.29
+ 24.7	10	— 0.66	+ 27.9	13.7	13	— 0.41	— 0.06
+ 35.0	10	— 0.21	+ 47.2	16.5	14	+ 0.24	+ 0.42
+ 45.9	9	— 0.32	+ 35.4	19.5	8	+ 0.01	+ 0.30
+ 54.0	10	— 0.04	+ 29.3	22.1	15	— 0.49	— 0.15
+ 64.4	11	— 0.11					
+ 76.3	10	+ 0.48					
CATALOGUE <i>minus</i> MELBOURNE, 1870.							
— 26.0	25	— 1.50	+ 8.4	1.6	13	— 0.33	— 1.41
— 4.9	16	— 0.36	+ 14.7	5.0	12	— 0.50	— 1.79
+ 5.6	22	— 0.47	+ 18.4	7.4	8	— 0.74	— 1.82
+ 14.9	20	— 0.67	+ 11.5	10.5	10	— 0.63	— 1.81
+ 24.9	14	— 0.22	+ 8.8	13.5	8	— 0.65	— 1.75
+ 34.0	7	+ 0.34	+ 13.3	16.5	9	— 0.18	— 1.43
+ 45.3	2	+ 0.80	+ 19.7	19.2	10	— 0.20	— 1.63
			+ 8.9	22.3	13	— 0.12	— 1.33

TABLE III. — *Continued.*

Residuals in the order of Declination.			Residuals in the order of Right Ascension.				
Mean δ	No. of Stars.	$\Delta \delta$	Mean δ	Mean R. A.	No. of Stars.	$\Delta \delta_1$	$\Delta \delta_2$
CATALOGUE <i>minus</i> BRUHNS, 1870.							
— 13.3	5	— 0.54	+ 29.2	1.4	15	— 0.39	— 0.56
— 4.3	10	— 0.37	+ 31.2	4.6	14	— 0.58	— 0.75
+ 6.7	14	— 0.31	+ 31.4	7.4	9	— 0.61	— 0.78
+ 14.6	13	— 0.36	+ 33.8	10.6	16	— 0.64	— 0.82
+ 25.8	12	— 0.58	+ 46.3	14.0	9	— 0.53	— 0.70
+ 35.9	15	— 0.31	+ 31.7	16.6	16	— 0.02	— 0.19
+ 45.4	17	— 0.59	+ 36.9	19.6	16	— 0.16	— 0.33
+ 55.0	14	— 0.55	+ 29.1	22.2	17	— 0.32	— 0.49
+ 64.3	8	— 0.08					
+ 83.0	6	— 0.10					
CATALOGUE <i>minus</i> GREENWICH, 1872.							
— 21.6	12	— 2.08	+ 30.4	1.5	30	— 0.71	— 0.77
— 4.7	19	— 1.09	+ 30.0	4.6	27	— 0.79	— 0.84
+ 5.8	27	— 0.78	+ 35.3	7.4	20	— 0.92	— 0.98
+ 14.5	31	— 0.71	+ 34.4	10.4	23	— 0.66	— 0.72
+ 24.8	28	— 0.58	+ 31.0	13.5	19	— 1.14	— 1.20
+ 35.6	23	— 0.84	+ 35.7	16.6	28	— 0.72	— 0.78
+ 46.0	13	— 0.82	+ 32.2	19.6	24	— 0.67	— 0.73
+ 54.5	8	— 1.28	+ 23.2	22.4	24	— 0.60	— 0.66
+ 64.2	15	— 0.58					
+ 77.9	19	— 0.47					
CATALOGUE <i>minus</i> WASHINGTON, 1872.							
— 24.8	18	— 1.03	+ 32.5	1.2	18	— 0.61	— 0.81
— 4.8	15	— 0.53	— 26.9	4.5	22	— 0.72	— 0.92
+ 6.0	25	— 0.55	+ 30.5	7.4	13	— 0.82	— 1.03
+ 15.0	26	— 0.30	+ 23.9	10.6	20	— 0.58	— 0.77
+ 24.7	19	— 0.71	+ 36.2	13.1	14	— 0.39	— 0.59
+ 35.6	8	— 0.69	+ 36.5	16.6	17	— 0.01	— 0.21
+ 46.0	8	— 0.77	+ 32.8	19.2	17	— 0.46	— 0.66
+ 54.8	4	— 0.12	+ 19.4	21.7	15	— 0.41	— 0.61
+ 64.9	9	— 0.58					
+ 78.5	15	+ 0.24					
CATALOGUE <i>minus</i> OXFORD, 1872.							
— 23.8	16	— 1.04	+ 24.3	1.4	24	+ 0.23	+ 0.17
— 5.1	22	+ 0.06	+ 22.8	4.7	24	— 0.51	— 0.57
+ 5.3	27	— 0.05	+ 32.7	7.5	21	— 0.24	— 0.29
+ 14.8	30	— 0.02	+ 29.0	10.6	18	— 0.44	— 0.50
+ 24.9	24	— 0.48	+ 32.2	13.4	19	— 0.21	— 0.26

TABLE III. — *Continued.*

Residuals in the order of Declination.			Residuals in the order of Right Ascension.				
Mean δ	No. of Stars.	$\Delta \delta$	Mean δ	Mean R. A.	No. of Stars.	$\Delta \delta_1$	$\Delta \delta_2$
CATALOGUE <i>minus</i> OXFORD, 1872.							
+ 34.7	18	— 0.05	+ 36.7	16.6	28	— 0.50	— 0.54
+ 45.4	16	— 0.44	+ 35.6	19.7	28	— 0.11	— 0.15
+ 55.8	14	— 0.23	+ 22.0	22.4	22	+ 0.28	+ 0.22
+ 64.8	13	+ 0.21					
+ 78.4	12	+ 0.31					
CATALOGUE <i>minus</i> HARVARD COLLEGE, 1872.							
— 25.6	29	— 0.88	+ 35.1	1.5	43	+ 0.13	+ 0.14
— 4.7	32	+ 0.37	+ 29.0	4.6	47	+ 0.04	+ 0.00
+ 5.5	37	— 0.06	+ 37.4	7.5	31	+ 0.07	+ 0.11
+ 15.0	42	+ 0.31	+ 36.6	10.5	38	— 0.11	— 0.08
+ 25.0	38	+ 0.05	+ 36.5	13.4	30	+ 0.24	+ 0.27
+ 35.4	33	— 0.09	+ 40.7	16.5	46	— 0.01	+ 0.05
+ 45.0	32	— 0.23	+ 36.9	19.6	42	— 0.06	— 0.03
+ 55.5	23	— 0.59	+ 31.8	22.5	40	+ 0.27	+ 0.25
+ 64.6	21	+ 0.01					
+ 76.7	23	— 0.03					

The residuals $\Delta \delta$ of Table III. between -10° and $+65^\circ$ declination are approximately represented by the following equations. The constant part of each equation has been derived by taking the mean of the values near the zenith of the place of observation. The mean of the values $\Delta \delta_2$, in the same table, also gives a value of this constant, depending on all the observations of the series. It will serve as a check upon the value adopted; but since its determination involves theoretical considerations, it was not considered advisable to adopt it in the solution of the equations. The values of $\Delta \delta$ for $\delta = +75^\circ$ are not included, since the secondary catalogue does not contain stars in this region; and those for $\delta = -25^\circ$ are excluded on account of the uncertainty which attaches both to the observed and to the standard positions. Two equations are given for Johnson, 1830, a new constant being adopted at -5° declination on account of the use of Young's refractions.

BRADLEY	1755.	$C = -0.15 + 0.27 \sin \delta - 0.50 \cos \delta$
D'AGELET	1784.	$C = +1.09 + 0.30 \sin \delta - 2.02 \cos \delta$
PIAZZI	1800.	$C = -1.71 + 2.33 \sin \delta - 1.03 \cos \delta$
LALANDE	1800.	$C = -0.95 + 1.66 \sin \delta - 1.89 \cos \delta$
ARGELANDER	1830.	$C = +0.13 + 0.86 \sin \delta - 1.37 \cos \delta$
AIRY	1830.	$C = -0.52 + 0.36 \sin \delta - 0.44 \cos \delta$

POND	1830.	$C = -0.53 + 1.19 \sin \delta - 1.59 \cos \delta$
STRUVE	1830.	$C = +0.01 + 0.62 \sin \delta - 0.81 \cos \delta$
FALLOWS	1830.	$C = -0.90 - 0.52 \sin \delta + 0.36 \cos \delta$
JOHNSON, I.	1830.	$C = +0.60 - 0.30 \sin \delta + 0.33 \cos \delta$
JOHNSON II.	1830.	$C = +0.00 + 7.10 \sin \delta + 1.99 \cos \delta$
TAYLOR	1835.	$C = -1.13 + 2.04 \sin \delta - 0.11 \cos \delta$
EDINBURGH	1840.	$C = -0.35 + 0.21 \sin \delta - 0.37 \cos \delta$
ROBINSON	1840.	$C = -0.49 + 0.28 \sin \delta - 0.23 \cos \delta$
GILLISS	1840.	$C = -1.30 + 0.70 \sin \delta + 0.19 \cos \delta$
= B. A. C.	1850.	
CAMBRIDGE	1840.	$C = -0.82 + 0.65 \sin \delta - 0.48 \cos \delta$
GREENWICH	1840.	$C = -0.16 + 0.02 \sin \delta - 0.10 \cos \delta$
CAMBRIDGE	1845.	$C = -0.82 - 0.30 \sin \delta - 0.13 \cos \delta$
OXFORD	1845.	$C = -0.35 + 0.33 \sin \delta - 0.28 \cos \delta$
GREENWICH	1845.	$C = -0.30 + 0.18 \sin \delta - 0.16 \cos \delta$
PULKOVA	1845.	$C = +0.00 - 0.15 \sin \delta + 0.04 \cos \delta$
ARGELANDER	1866.	$C = +0.88 + 0.34 \sin \delta + 0.16 \cos \delta$
ENGELMANN	1866.	$C = -0.07 + 0.25 \sin \delta - 0.53 \cos \delta$
MELBOURNE	1870.	$C = -1.50 + 1.95 \sin \delta + 0.82 \cos \delta$
BRUHNS	1870.	$C = -0.56 + 0.10 \sin \delta + 0.14 \cos \delta$
GREENWICH	1872.	$C = -0.89 + 0.05 \sin \delta + 0.04 \cos \delta$
WASHINGTON	1872.	$C = -0.72 + 0.11 \sin \delta + 0.17 \cos \delta$
OXFORD	1872.	$C = -0.19 - 0.03 \sin \delta + 0.08 \cos \delta$
HARVARD COLLEGE, 1872.		$C = -0.06 - 0.42 \sin \delta + 0.28 \cos \delta$

The following equations represent the residuals $\Delta \delta_2$ in those cases in which the periodicity depending on the right ascension is obvious. The mean value of $\Delta \delta_2$ is taken for the constant in the solution, but it is to be dropped in computing the total correction in declination, since an equivalent value has already been employed.

BRADLEY . . .	1755.	$C' = -0.09 - 0.38 \sin a - 0.26 \cos a$
D'AGELET . . .	1784.	$C' = +1.14 - 0.88 \sin a - 0.16 \cos a$
PIAZZI	1800.	$C' = -1.87 + 0.89 \sin a - 0.15 \cos a$
LALANDE . . .	1800.	$C' = -0.98 + 0.47 \sin a + 0.00 \cos a$
ARGELANDER . .	1830.	$C' = +0.10 + 0.36 \sin a - 0.30 \cos a$
AIRY	1830.	$C' = -0.41 + 0.26 \sin a - 0.15 \cos a$
ROBINSON . . .	1840.	$C' = -0.59 + 0.42 \sin a - 0.04 \cos a$
B. A. C.	1850.	$C' = -1.18 - 0.06 \sin a + 0.26 \cos a$
OXFORD	1845.	$C' = -0.22 - 0.37 \sin a - 0.06 \cos a$
OXFORD	1872.	$C' = -0.24 - 0.07 \sin a + 0.28 \cos a$

With regard to D'Agelet and Piazzi, it is to be remarked that there is an abrupt change in the values of the residuals near 14 hours of right ascension, but in opposite directions. When they are arranged in groups of one hour each, this change is strikingly manifest.

Table IV., which contains the differences between the computed and the observed values of $\Delta \delta_2$, will indicate how far the errors are reduced by applying the computed corrections.

TABLE IV.
VALUES OF $\Delta \delta_2 - C'$.

Mean R.A.	Bradley, 1755.	D'Agelet, 1784.	Piazzi, 1800.	Lalande, 1800.	Argelander, 1866.	Airy, 1830.	Robinson, 1840.	B. A. C., 1850.	Oxford, 1845.	Oxford, 1875.
$h.$	"	"	"	"	"	"	"	"	"	"
1.5	+0.07	-0.55	+0.38	-0.21	-0.22	+0.36	+0.10	+0.12	+0.29	+0.18
4.5	+ .00	+ .58	+ .03	- .02	- .06	- .21	- .31	- .03	- .08	- .35
7.5	- .37	+ .11	- .45	- .08	+ .15	- .18	+ .04	- .02	- .16	+ .12
10.5	+ .37	+ .02	- .01	+ .31	+ .06	+ .09	+ .30	+ .01	- .28	+ .03
13.5	+ .09	- .57	+ .36	+ .12	- .10	+ .15	- .20	- .04	+ .20	+ .21
16.5	- .23	+ .16	- .12	- .03	- .07	+ .10	- .21	+ .13	- .34	- .27
19.5	- .03	+ .67	- .22	- .13	+ .11	- .41	+ .23	- .04	- .05	- .09
21.5	+ .08	- .26	- .06	+ .36	+ .22	+ .11	- .11	- .09	+ .33	+ .18

That part of the preceding discussion which relates to the systematic errors in declination, is not entirely satisfactory. While the residuals of the earlier authorities are as well satisfied as could be expected, there is a general tendency to a persistence of the negative sign in the difference between the observed and the computed values between $+0^\circ$ and $+45^\circ$ declination, of the positive sign for points north, and again of the negative sign, especially in the observations since 1866, for points south of these limits. In other words, the curve derived from the observations between -5° and $+65^\circ$ declination, will not, when extended, entirely satisfy the observations between -35° and $+85^\circ$. This apparent periodicity is not materially reduced by introducing the terms depending on $\sin 2\delta$ and $\cos 2\delta$. Argelander met this difficulty in comparing his own Åbo observations with those of Piazzini, by giving the graphic curve representing the deviations between the two systems, five points of inflexion. In a curve of this kind great weight is given to accidental errors.

The residuals $\Delta\delta$, are not strictly circular functions; hence the equation of the form $c + a \sin \delta + b \cos \delta$ by which they were supposed to be represented, is at best only approximately true. The arc of declination terminates abruptly at the pole, and since $\sin \delta$ is maximum at this point, the effect of a large accidental error in this region may be to neutralize all the remaining errors, in the solution of the equations. The choice of an erroneous constant may have the same effect. The introduction of observations at the lower culmination would partially remedy this difficulty, if we could be sure that no new errors are introduced peculiar to observations of this class. If, as in the case of Harvard College, the declinations depend on observed transits, there may be a difference between observations at the upper and the lower culmination, due to the motion of the star in opposite directions. It is possible to eliminate errors of a similar kind by a proper combination of the observations in opposite positions of the telescope; but since the data for doing this is in almost every case wanting, it does not appear advisable to extend the arc of declination beyond the pole. If we assume that there is a break in the continuity of the standard system between $+55^\circ$ and $+65^\circ$ declination, the correction of the standard system for this error will give somewhat better results, but we cannot safely assume at present that the error really exists.

Strictly, the known differences between the Pulkova mean refractions and those of Bessel for the same zenith distances, ought to have been applied to the residuals $\Delta\delta$ before the solution. Since however the differences between the two systems for each 10° as far as $\pm 70^\circ$ zenith distance, can be expressed by the equations involving $\sin \delta$ and $\cos \delta$ within $\pm 0''.09$, and especially since it is not certain that the constant of refraction is rigorously true for every condition of climate and temperature, the equation in the form given above, was adopted. It is, however, still further open to the objection that beyond 60° zenith distance, the residuals which depend on the refraction no longer proceed by a constant difference.

If we suppose that a part of the errors are due to refraction and the remaining part to flexure, the residuals $\Delta\delta$ may be expressed by an equation of the form:

$$\Delta\delta = c + d \tan z + e \sin z$$

In order to compare the results given by the two equations, both solutions are given for Pond, 1830.

$\Delta \delta = \text{a function of } \sin \delta \text{ and } \cos \delta$

$$\Delta \delta = -0.53 + 1.52 \sin \delta - 1.81 \cos \delta$$

 $\Delta \delta = \text{a function of } \tan z \text{ and } \sin z$

$$\Delta \delta = -0.53 - 0.15 \tan z - 2.00 \sin z$$

δ	$\Delta \delta$ Observed	$\Delta \delta'$ Computed	$\Delta \delta''$ Computed	$\Delta \delta - \Delta \delta'$	$\Delta \delta - \Delta \delta''$
•	•	•	•	•	•
-23.5	-3.27	-2.81	-3.03	-0.46	-0.24
- 4.5	-1.28	-2.43	-2.41	+1.15	+1.13
+ 5.5	-1.98	-2.17	-2.13	+0.19	+0.15
+15.1	-2.24	-1.89	-1.82	-0.35	-0.42
+25.0	-1.59	-1.54	-1.50	-0.05	-0.09
+35.6	-2.08	-1.12	-1.13	-0.96	-0.95
+44.9	-0.62	-0.74	-0.77	+0.12	+0.15
+55.2	-0.45	-0.31	-0.40	-0.14	-0.05
+64.5	+0.51	+0.06	+0.05	+0.45	+0.56
+77.3	+0.75	+0.56	+0.42	+0.19	+0.33

If the residuals are derived from observations at the extreme point of south declination, the equation of the form $c + d \tan z + e \sin z$, may be advantageously adopted; but if the curve is to be extended beyond the mean of the observed declinations, the equation of the form $c + a \sin \delta + b \cos \delta$, is to be preferred.

Since there is manifestly a point of inflexion near the equator, due either to an error in the standard system or to an error common to nearly all of the authorities employed, the curves derived from the equations are no longer simple curves. A convenient way of making the inflexion is to form equations between the residuals computed for the point of inflexion and the observed values for the extreme south points of observation. If the inflexion takes place at the equator, the equations will be

$$b = \Delta \delta_1$$

$$a = \frac{\Delta \delta_2 - b \cos \delta}{\sin \delta}$$

An obvious method of reducing the magnitude of the observed residuals, is to apply to the standard system a series of corrections derived from the mean values for all of the authorities introduced. Besides the theoretical objections which might be urged against doing this, it is sufficient to add that the residual errors will not be thereby materially reduced. Moreover, it would then become impossible to assign the constant due to each authority, since it is partly involved in the corrections themselves. The character and the magnitude of the residuals representing the mean deviation from the standard system will appear from the following table.

TABLE V.

VALUES OF THE RESIDUALS Δs AND THEIR MEANS.

AUTHORITIES.	-35°	-25°	-15°	-5°	+5°	+15°	+25°	+35°	+45°	+55°	+65°	+75°
Bradley . . .	" +0.33	" -0.31	" -0.39	" +0.03	" -1.03	" -0.59	" -0.73	" -0.62	" -0.14	" -0.27	" +0.12	" +1.17
D'Agelet . . .	.....	-1.84	-0.72	-0.97	-0.64	-0.13	-0.76	-1.67	+0.77	.....	.....	.....
Piazzi . . .	-2.70	-2.72	-1.92	-1.82	-2.29	-2.80	-2.27	-2.21	-0.54	+0.48	+0.32	+0.92
Lalande . . .	-(0.60)	-2.17	-1.67	-2.46	-2.30	-2.73	-2.55	-2.17	-0.79	-0.17	-0.14	+0.79
Argelander . .	.....	.....	-1.75	-1.16	-0.96	-1.16	-0.99	-0.93	-0.05	-0.02	+0.74	+0.24
Airy . . .	-(2.90)	-1.95	-2.18	-0.96	-0.31	-0.69	-0.88	-1.53	-1.22	-0.22	+0.39	+0.32
Pond . . .	-2.62	-3.87	-2.76	-1.28	-1.98	-2.24	-1.59	-2.08	-0.62	-0.45	+0.51	+0.75
Struve . . .	.....	-(2.50)	-1.25	-0.60	-0.87	-0.58	-0.34	-0.64	-0.04	-0.06	+0.51	+1.12
Fallows . . .	-0.55	-(2.10)	-0.45	-0.42	-0.72	.....	.....	.....	.....	.....	.....	.....
Johnson . . .	-1.25	-1.48	-0.15	+1.31	+0.92	+0.44	+0.98	+0.23	+0.80	+0.33	+0.85	.....
Taylor . . .	-1.87	-1.73	-0.77	-0.52	-1.15	-1.02	-0.70	-0.51	+0.17	+0.58	+1.29	+0.68
Edinburgh . .	.....	.....	.....	-0.63	-0.32	-0.76	-0.80	-0.92	-0.35	-0.41	-0.03	+0.48
Robinson . . .	.....	-0.62	-1.64	-0.22	-0.89	-0.65	-0.26	-1.33	-0.90	-0.15	+0.23	+0.17
Cambridge . .	.....	.....	.....	-1.22	-0.80	-1.39	-0.76	-1.53	-0.94	-0.70	+0.34	.....
Greenwich . .	+0.31	-0.41	-0.30	+0.16	-0.23	-0.37	-0.42	-0.73	-0.21	-0.06	+0.17	+0.39
Cambridge . .	.....	.....	.....	-0.47	-0.91	-1.35	-0.95	-1.68	-1.00	-0.79	.....	+0.20
Oxford . . .	-0.60	-1.29	-0.52	+0.19	-0.59	-0.74	-1.29	-0.49	-0.45	-0.31	+0.60	+1.15
Greenwich . .	-0.42	-0.86	-0.74	-0.14	-0.45	-0.43	-0.41	-0.81	-0.37	-0.36	+0.34	+0.39
Pulkova . . .	.....	+0.21	-0.31	+0.19	-0.04	-0.02	-0.06	-0.06	-0.10	-0.18	+0.07	+0.12
Argelander . .	.....	-1.17	-1.28	-0.82	-0.62	-0.62	-0.50	-0.34	-0.84	-0.98	-0.02	+0.47
Engelmann . .	.....	-1.73	-0.92	-0.57	-0.46	-0.65	-0.66	-0.21	-0.32	-0.04	-0.11	+0.48
Melbourne . .	-1.59	-1.71	-1.11	-0.36	-0.47	-0.67	-0.22	+0.34	+0.80	.....	.....	.....
Bruhns . . .	.....	.....	.....	-0.37	-0.31	-0.36	-0.58	-0.31	-0.59	-0.55	-0.08	+0.10
Greenwich . .	-0.65	-1.90	-1.97	-1.09	-0.78	-0.71	-0.58	-0.84	-0.82	-1.28	-0.58	-0.47
Washington . .	-1.63	-1.12	-0.72	-0.53	-0.55	-0.30	-0.71	-0.69	-0.77	-0.12	-0.58	+0.24
Oxford . . .	+0.73	-1.65	-0.98	+0.06	-0.05	-0.02	-0.48	-0.05	-0.44	-0.23	+0.21	+0.31
Harvard Coll. .	-1.67	-0.64	-0.53	+0.37	-0.06	+0.31	+0.05	-0.09	-0.23	-0.59	+0.01	-0.03
SUMS { I. . .	- 8.66	-16.69	-15.65	-10.92	-13.34	-14.30	-11.67	-15.91	-3.85	-1.06	+5.13	+6.64
II. . .	- 5.52	-12.27	- 9.38	- 3.38	- 5.52	- 5.93	- 6.81	- 5.96	-5.34	-5.49	+0.03	+3.35
I. + II. .	-14.18	-28.96	-25.03	-14.30	-18.86	-20.23	-18.48	-21.87	-9.19	-6.55	+5.16	+9.99
MEANS { I. . .	- 1.44	- 1.85	- 1.30	- 0.78	- 0.95	- 1.10	- 0.90	- 1.22	-0.30	-0.09	+0.43	+0.66
II. . .	- 0.69	- 1.11	- 0.85	- 0.26	- 0.42	- 0.46	- 0.52	- 0.46	-0.41	-0.46	+0.00	+0.28
I. + II. .	- 1.04	- 1.45	- 1.09	- 0.53	- 0.70	- 0.78	- 0.71	- 0.84	-0.35	-0.27	+0.22	+0.45

GRAPHICAL DISCUSSION OF THE RESIDUALS IN DECLINATION.

From the above tables it appears that, after all corrections are applied, a residuary deviation remains, dependent on the declination of the star, and varying with each different Observatory. It now becomes necessary to discuss these residuals with care, to determine the law of the variations and the amount of the correction to be applied in any particular case. Two methods may be adopted for this discussion; first, the analytical method, in which a certain form of equation is assumed, and the constants computed which will best satisfy the observations; secondly, the graphical method, in which the position of the various points is represented by their coördinates and a curve is drawn which will pass as nearly as possible through all. If the residuals are due to some simple source of error, as flexure, erroneous coefficient of refraction or eccentricity, and if we assume the correct form of equation, the first of these methods will give the best result. It has further the very great advantage that the constants are independent of the computer, and a second discussion would give precisely the same values. On the other hand, the graphical method gives a much wider choice in the form of the curve, involves no hypothesis as to the cause of the deviation, and should generally give a better accordance. It is, however, open to the objection that the results depend largely on the skill and judgment of the person who draws the curve. Consequently, a second discussion may lead to different numerical values, though the change would not probably be greater than if in the analytical method a second investigator should assume another form of equation.

The residuals given in Table III. have already been discussed analytically in the preceding pages. It now remains to examine them graphically, and compare the results given by the two methods. The points were first constructed on paper ruled in squares, with declinations as abscissas, and the deviations, $\Delta \delta$, as ordinates. The first of these were constructed on a scale of 5° to one division or one-tenth of an inch, and the deviations on a scale of .1" to a tenth of an inch. The points were thus plotted by two persons, and a tracing from one drawing was laid on the other, to make sure that no errors existed. Curves were drawn by the eye through these points by two observers, one using each series of drawings. A comparison showed an approximate agreement of the two sets, except for the extreme northern and southern stars. For these points variations appeared, due to the different weight attached to the extreme residuals by the two observers. As the points from -5° to $+65^\circ$ inclusive seemed to be the most accurate, it was decided to limit the comparison to them.

In Table VI. the results of several discussions of the residuals are compared for each catalogue in turn, and in Table VII. a similar comparison is made for all the early catalogues from Bradley, 1755, to Cambridge, 1840, for the later catalogues from Greenwich, 1840, to Harvard College, 1872, and for the entire collection from 1755 to 1872. The catalogue of Gilliss is thrown out from this discussion, since the declinations, being taken from the British Association Catalogue, are not independent determinations.

As our object is to eliminate all systematic errors, the resulting deviations should be wholly accidental. We may therefore measure our success in each case by several tests. First, by the changes of sign. The errors, if accidental, should be partly posi-

TABLE VI.

RESIDUALS.	Changes of sign.	I. Sum of plus residuals.	II. Sum of minus residuals.	Sum of I. and II.	Difference of I. and II.	Changes of sign.	I. Sum of plus residuals.	II. Sum of minus residuals.	Sum of I. and II.	Difference of I. and II.
BRADLEY, 1755.						D'AGELET, 1784.				
Observed	2	0.15	3.38	3.53	3.23	1	0.77	4.17	4.94	3.40
Analytical Curve	4	1.09	0.94	2.03	0.15	3	1.79	1.48	3.27	0.31
Graphic Curve	5	0.79	0.83	1.62	0.04	3	1.73	1.26	2.99	0.47
Curve with inflexion	5	1.02	0.73	1.75	0.29	3	1.63	1.21	2.84	0.42
PIAZZI, 1800.						LALANDE, 1800.				
Observed	1	0.80	11.93	12.73	11.13	0	0.00	13.31	13.31	13.31
Analytical Curve	2	2.82	2.43	5.25	0.39	2	1.75	1.58	3.33	0.17
Graphic Curve	5	1.79	1.16	2.95	0.63	3	1.19	0.78	1.97	0.41
Curve with inflexion	5	1.16	1.09	2.25	0.07	4	1.10	1.00	2.10	0.10
ARGELANDER, 1830.						AIRY, 1830.				
Observed	1	0.74	5.27	6.01	4.53	1	0.39	5.81	6.20	5.42
Analytical Curve	4	0.89	0.96	1.85	0.07	2	1.84	1.62	3.46	0.22
Graphic Curve	4	0.86	0.46	1.32	0.40	3	1.41	0.75	2.16	0.66
Curve with inflexion	6	0.46	0.40	0.86	0.06	2	0.80	0.42	1.22	0.38
POND, 1830.						STRUVE, 1830.				
Observed	1	0.51	10.24	10.75	9.73	1	0.51	3.13	3.64	2.62
Analytical Curve	2	1.76	1.54	3.30	0.22	6	0.73	0.60	1.33	0.13
Graphic Curve	6	1.46	1.11	2.57	0.35	6	0.67	0.61	1.28	0.06
Curve with inflexion	6	1.43	1.11	2.54	0.32	5	0.41	0.83	1.24	0.42
JOHNSON, 1830.						TAYLOR, 1835.				
Observed	0	5.86	0.00	5.86	5.86	1	2.04	3.90	5.94	1.86
Analytical Curve	6	1.16	1.06	2.22	0.10	2	1.61	1.29	2.90	0.32
Graphic Curve	6	0.93	0.95	1.88	0.02	6	0.84	0.34	1.18	0.50
Curve with inflexion	6	1.16	1.04	2.20	0.12	6	0.69	0.24	0.93	0.45
EDINBURGH, 1840.						ROBINSON, 1840.				
Observed	0	0.00	4.24	4.24	4.24	1	0.23	4.40	4.63	4.17
Analytical Curve	4	0.86	0.73	1.59	0.13	4	1.65	1.46	3.11	0.19
Graphic Curve	4	0.52	0.59	1.11	0.07	4	1.40	1.31	2.71	0.09
Curve with inflexion						4	1.44	1.35	2.79	0.09
CAMBRIDGE, 1840.						GREENWICH, 1840.				
Observed	1	0.34	7.34	7.68	7.90	2	0.33	2.02	2.35	1.69
Analytical Curve	4	1.58	1.39	2.97	0.19	1	0.45	0.38	0.83	0.07
Graphic Curve	7	1.07	1.01	2.08	0.06	4	0.53	0.23	0.76	0.30
Curve with inflexion						2	0.64	0.21	0.85	0.43

TABLE VI. — *Continued.*

RESIDUALS.	Changes of sign.	I. Sum of plus residuals.	II. Sum of minus residuals.	Sum of I. and II.	Difference of I. and II.	Changes of sign.	I. Sum of plus residuals.	II. Sum of minus residuals.	Sum of I. and II.	Difference of I. and II.
CAMBRIDGE, 1845.						OXFORD, 1845.				
Observed	0	0.00	7.15	7.15	7.15	2	0.79	3.87	4.66	3.08
Analytical Curve . . .	4	1.12	0.91	2.03	0.21	2	1.63	1.33	2.96	0.30
Graphic Curve . . .	5	0.43	0.68	1.11	0.25	4	1.04	0.65	1.69	0.39
Curve with inflexion	4	0.38	0.64	1.02	0.26	6	1.01	0.71	1.72	0.30
GREENWICH, 1845.						PULKOVA, 1845.				
Observed	1	0.34	2.97	3.31	2.63	2	0.26	0.46	0.72	0.20
Analytical Curve . . .	2	0.86	0.77	1.63	0.09	2	0.32	0.24	0.56	0.08
Graphic Curve . . .	6	0.76	0.44	1.20	0.32	4	0.34	0.13	0.47	0.21
Curve with inflexion	6	0.72	0.48	1.20	0.24	4	0.34	0.17	0.51	0.17
ARGELANDER, 1866.						ENGELMANN, 1866.				
Observed	0	0.00	4.74	4.74	4.74	0	0.00	3.02	3.02	3.02
Analytical Curve . . .	3	0.90	0.84	1.74	0.06	5	0.45	0.43	0.88	0.02
Graphic Curve . . .	3	0.89	0.61	1.51	0.28	5	0.69	0.46	1.15	0.23
Curve with inflexion	4	0.44	0.51	0.95	0.07					
MELBOURNE, 1870.						BRUHNS, 1870.				
Observed	1	1.14	1.72	2.86	0.58	0	0.00	3.15	3.15	3.15
Analytical Curve . . .	2	0.92	0.77	1.69	0.15	4	0.59	0.54	1.13	0.05
Graphic Curve . . .	2	0.63	0.71	1.34	0.08	4	0.56	0.43	0.99	0.13
Curve with inflexion	2	0.67	0.71	1.38	0.04	4	0.51	0.34	0.85	0.17
GREENWICH, 1872.						WASHINGTON, 1872.				
Observed	0	0.00	6.68	6.68	6.68	0	0.00	4.25	4.25	4.25
Analytical Curve . . .	3	0.69	0.70	1.39	0.01	5	0.65	0.65	1.30	0.00
Graphic Curve . . .	2	0.67	0.65	1.32	0.02	4	0.48	1.13	1.61	0.65
Curve with inflexion	5	0.52	0.42	0.94	0.10	5	0.58	0.77	1.35	0.19
OXFORD, 1872.						HARVARD COLLEGE, 1872.				
Observed	2	0.27	1.27	1.54	1.00	4	0.74	0.97	1.71	0.23
Analytical Curve . . .	4	0.83	0.70	1.53	0.13	4	0.69	0.68	1.37	0.01
Graphic Curve . . .	4	1.12	0.50	1.62	0.62	4	0.80	0.92	1.72	0.12
Curve with inflexion	4	0.87	0.52	1.39	0.35	6	0.75	0.47	1.22	0.28

TABLE VII.

RESIDUALS.	Changes of sign.	I. Total of plus residuals.	II. Total of minus residuals.	Sum of I. and II.	Diff. of I. and II.
From BRADLEY, 1755, to CAMBRIDGE, 1840.					
Observed	11	12.34	77.12	89.46	— 64.78
Analytical Curve .	45	19.53	17.08	36.61	+ 2.45
Curve I.	45	19.01	13.48	32.49	+ 5.53
Curve II.	49	18.73	11.06	29.79	+ 7.67
Curve from bisections	62	14.65	11.16	25.81	+ 3.49
Curve with inflexion	62	13.85	11.03	24.88	+ 2.82
Theoretical Curve .	44	10.94	10.14	21.08	+ 0.80
From GREENWICH, 1840, to HARVARD COLLEGE, 1872.					
Observed	14	3.87	42.27	46.14	— 38.40
Analytical Curve .	41	10.10	8.94	19.04	+ 1.16
Curve I.	36	13.05	10.07	23.12	+ 2.98
Curve II.	37	9.09	10.54	19.63	— 1.45
Curve from bisections	51	8.94	7.54	16.48	+ 1.40
Curve with inflexion	57	8.12	6.23	14.35	+ 1.89
Theoretical Curve .	44	7.65	5.76	13.41	+ 1.89
From BRADLEY, 1755, to HARVARD COLLEGE, 1872.					
Observed	25	16.21	119.39	135.60	—103.18
Analytical Curve .	86	29.63	26.02	55.65	+ 3.61
Curve I.	81	32.06	23.55	55.61	+ 8.51
Curve II.	86	27.82	21.60	49.42	+ 6.22
Curve from bisections	113	23.59	18.70	42.29	+ 4.89
Curve with inflexion	119	21.97	17.26	38.23	+ 4.71
Theoretical Curve .	88	18.41	15.90	34.69	+ 2.51

TABLE VIII.

AUTHORITIES.	Dec. of point of inflexion.	I. Sum of +25°, +35°, +45°	II. Sum of —5°, +5°, +15°	Diff. of I. and II.
Bradley . . . 1755	....	—0.27	+0.25	—0.52
D'Agelet . . . 1784	+14	—0.53	+0.84	—1.37
Piazzi 1800	+30	—1.37	+0.62	—1.99
Lalande 1800	....	—0.88	+0.48	—1.36
Argelander . . 1830	+15	—0.57	+0.16	—0.73
Airy 1830	+24	—1.62	+0.80	—2.42
Pond 1830	+13	—0.86	+0.42	—1.28
Struve 1830	+20	—0.18	+0.15	—0.33
Johnson 1830	+10	—0.05	—0.03	—0.02
Taylor 1835	+20	—0.89	+0.48	—1.37
Edinburgh . . . 1840	....	—0.50	+0.35	—0.85
Robinson 1840	+20	—0.94	+0.32	—1.26
Cambridge 1840	....	—0.74	+0.30	—1.04
Greenwich 1840	+14	—0.21	+0.34	—0.55
Cambridge 1845	....	—0.35	+0.21	—0.56
Oxford 1845	+11	—1.06	+0.66	—1.72
Greenwich 1845	+18	—0.62	+0.28	—0.90
Pulkova 1845	+15	—0.07	+0.05	—0.12
Argelander . . . 1866	+42	+0.01	+0.03	—0.02
Engelmann . . . 1866	....	—0.12	+0.03	—0.15
Melbourne 1870	+20	+0.13	+0.02	+0.11
Bruhns 1870	+25	—0.31	+0.18	—0.49
Greenwich 1872	+40	+0.24	—0.04	+0.28
Washington . . . 1872	+26	—0.61	+0.23	—0.84
Oxford 1872	+25	—0.54	+0.33	—0.87
Harvard College 1872	+38	—0.06	+0.09	—0.15
SUMS . . . . .	....	—12.97	+7.55	—20.52

tive and partly negative, and so distributed that there should be several changes of sign, or that all the positive or all the negative signs should not be grouped together. If there are n residuals in a given series, there might be $n - 1$ changes of sign; but if the errors are accidental, it is probable that half the time a $+$ would be followed by a $+$ and half the time by a $-$. Since, in the present case, in the complete catalogues there are eight points given, we should expect from three to four changes of sign for each. The actual number of changes is given in the second column. The next test is, that the sum both of the positive and of the negative residuals should be reduced, and that they should be nearly equal to each other. The third and fourth columns give the magnitudes of these quantities, the fifth column gives their numerical sum, and the sixth their numerical difference, which should of course be nearly zero; or the fifth and sixth columns give the arithmetical and algebraic sums of columns three and four. In each portion of Tables VI. and VII., the first line shows the result of subjecting the original deviations to these tests. The second line gives in like manner the results of a comparison of the residuals remaining after the analytical discussion by the equation $y = c + a \sin \delta + b \cos \delta$. The total possible changes of sign is 177, therefore we should expect somewhat less than ninety changes of sign. The equation increases the number of changes of sign from 25 to 86, or from 28 to 97 per cent of its most probable value. The negative residuals are increased, but only because the positive residuals are much too large, and their sum is reduced from $135''.60$ to $55''.65$, or nearly sixty per cent. The difference of the residuals from the equation is not exactly zero, since the condition introduced is that the sum of the squares only shall be zero. In the third and fourth lines of Table VII., the two sets of curves described above, are compared. The latter are not given in detail in Table VI., since they have been superseded by a more accurate graphical construction. The earlier and later observations are divided in Table VII., since it appeared that the advantages of the graphical method, as might be expected, are more marked with the early and less accurate observations. With the later observations, where the errors are largely accidental, the difference in the results between Curve II., which is better than Curve I., and the theoretical equation, is very small. The latter has, however, a marked advantage in the difference of the residuals. Both observers drew their curves too low, as is shown by the predominance of the positive over the negative residuals in all six cases. The greatest difficulty with the graphical method seems to be to make the positive and negative residuals equal. As a remedy the following device was employed. Each pair of adjacent points were connected by a straight line, and its middle point used as a new observed point. These points were again connected, and a second series of points were obtained, having the same abscissas as the original observations, but from which the accidental errors were in a great measure eliminated. This will be evident, if we consider two adjacent points, one too high and the other too low, by nearly equal amounts, since the new point will then fall nearly in its correct position. Curves were drawn nearly through these points, and the residuals are given in the lines of Table VI. marked *Graphic Curve*, and in Table VII. marked *Curve from bisections*. These show a great superiority over the previous curves. The number of changes of sign is increased, in fact rendered almost too great, and all the errors are diminished. The total deviations are reduced nearly fifteen per cent from the best previous values, twenty-four per cent less than

those from the analytical curves, and nearly seventy per cent (68.8) from the original deviations. The difference in the positive and negative residuals is reduced forty per cent from the curve, but has still nearly double the values given by the equation.

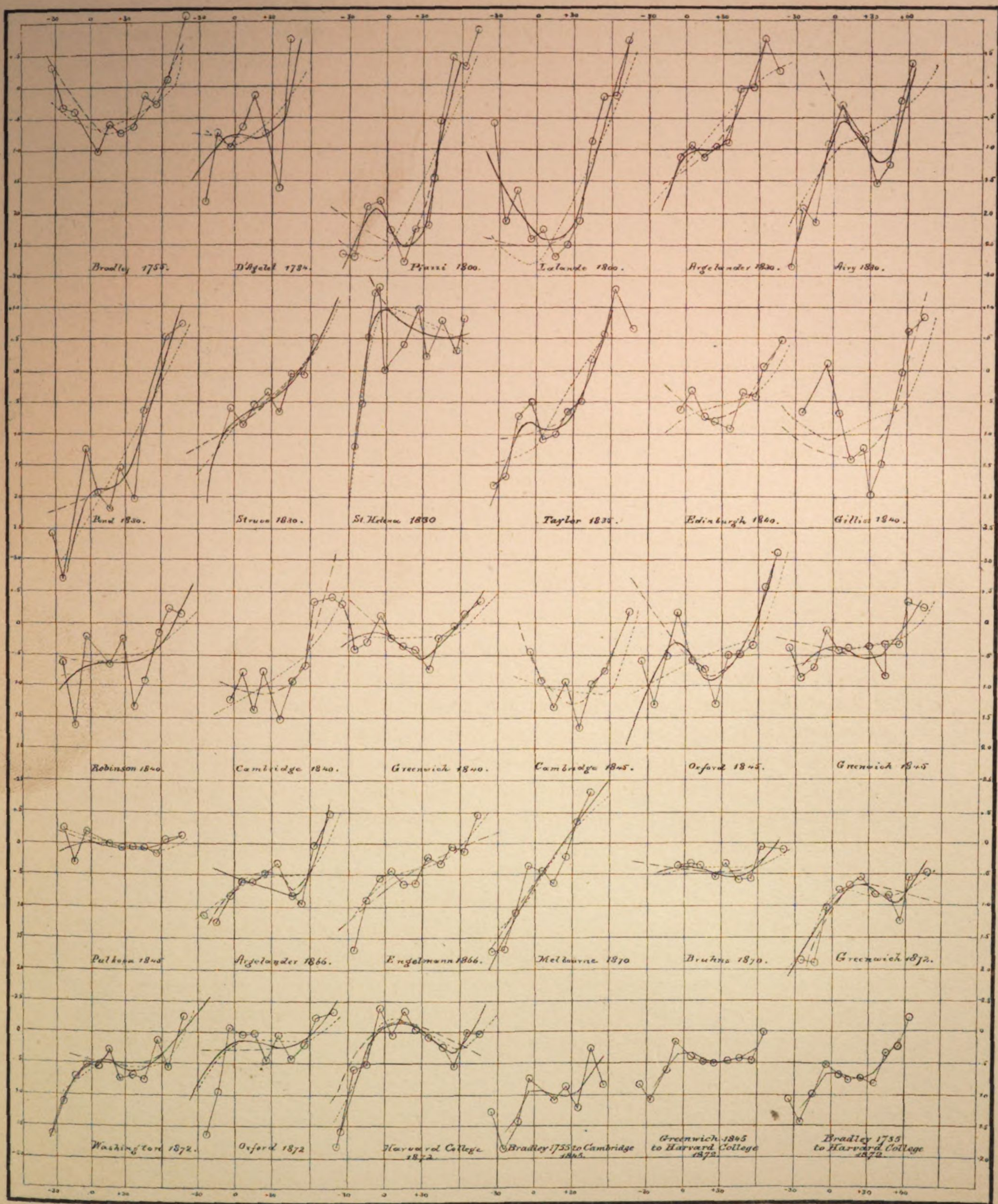
By the graphical method, any degree of apparent precision may be attained, by admitting a sufficient number of points of inflexion. Each of these would in general correspond to the introduction of another arbitrary constant in the theoretical equation. Accordingly, in the curves described above, the condition was introduced that their curvature should not change, or that they should contain no point of inflexion. This appears at first sight to place the curves at a disadvantage as compared with the equations, since the latter have a point of inflexion at the point where $\tan \delta = -\frac{b}{a}$. An examination, however, shows that the curvature is so slight for some distance on each side of the point of inflexion that, when the latter falls within the limits of the observations, the reversal of curvature is not very marked. The points found by bisections as described above showed in several cases a very marked tendency to a reversal of curvature, or to the presence of a point of inflexion. This restriction was accordingly removed, and curves were drawn allowing one point of inflexion. It now appeared that almost all the observations were better satisfied by introducing a point of inflexion between the declinations 10° and 42° . The comparison of these curves is shown in Tables VI. and VII. in the lines marked *Curve with inflexion*.

The existence of a point of inflexion in each of these curves is a matter of such importance that it is desirable to establish its presence in some other way. The following method, which is moreover independent of the skill or judgment of the observer, shows that the residuals from the analytical curve are not wholly composed of accidental errors. Although they do not prove the existence of a point of inflexion, they do show the existence of systematic errors common to them all, which may be eliminated by assuming that there is a point of inflexion. In Table VIII. are given the results of this discussion. Following the name and date of each catalogue is the declination of each point of inflexion taken from the curve. This shows that its mean position is about $+23^\circ$. The effect of such a point of inflexion would be to render the residuals of the analytical curve positive for adjacent points south of it, and negative for those north. The sums of the residuals, or differences between the observed points and those computed by the equation $c + a \sin \delta + b \cos \delta$, for the declinations 25° , 35° , and 45° , are accordingly given in the third column, and the sums of -5° , 5° , and 15° , are given in the fourth. The result is very marked, as in all but two cases the expected change of sign is obtained. In Melbourne, 1870, the point of inflexion is not very marked, and the accidental errors neutralize the difference. In Greenwich, 1872, as the point of inflexion has a declination of 40° , we should strictly have compared 45° , 55° , and 65° with 15° , 25° , and 35° . This gives a result of $-.68$ instead of $+.28$. Argelander, 1866, in like manner gives $-.32$ instead of $-.02$; and Harvard College, 1872, gives $-.31$ for $-.15$. The only other case where the point of inflexion is north of the limit of 25° is Washington, 1872, and here the effect is less, $-.84$ becoming $-.04$. If, then, we adopt the rule of always taking the sum of the three points north and compare them with the three points south of our supposed points of inflexion, we find the result still more marked, and the difference is in the right direction in every case but one. It will be noticed that, in several cases, Bradley, 1755, Lalande, 1800, Edinburgh, 1840, Cambridge, 1840, Cambridge, 1865, and Engelmann, 1866,

although no points of inflexions were detected from the curves, this discussion still points to their existence.

The residuals are partly due to accidental errors and partly to real deviations. The latter source of error can alone be eliminated, and it therefore becomes very desirable to estimate the magnitude of the accidental errors, that we may know the limit below which we need not expect to reduce the deviations. The method of bisections given above suggests an approximate measure of these quantities. Since the accidental errors are only partly removed, the interval between the observed and constructed points may be taken as a measure of these errors, and one which they certainly will not fall below. It may be said that since this construction would show deviations even in a perfectly smooth curve, too great a value might be obtained. But the accidental errors are so large that this error would be in a great measure masked. It would be always small with these curves, since the interval between consecutive points is never very great compared with their curvature. Thus in Bradley, 1755, which is an extreme case, the value of these errors, as found in the *Curve from bisections* for six points, is only ".135, or an average of ".023 for each point. The intervals between the observed and constructed points may be obtained by a simple calculation, but in the present case it was found to be quicker and sufficiently accurate to read them directly from the curves. Since the construction does not give points for -5° and $+65^\circ$, only 154 points could be measured. The sum of the positive residuals was 10."10, and of the negative 13."98. To compare these with the residuals from the inflected curve, it was necessary to take their values from $+5^\circ$ to $+55^\circ$. This gave for the positive residuals 12."05, and for the negative 15."18. We then have the proportions $12."05 : 10."10 = 21."97 : 18."41$, and $15."18 : 13."98 = 17."26 : 15."90$, for the theoretical residuals, if the end points gave similar values. An examination of the residuals of the *Curve with inflexion* for -5° and $+65^\circ$ shows a great predominance of the positive signs, which exceed the negative nearly in the ratio of five to one. This shows that slight systematic errors remain in the inflected curve, probably owing to the curvature being taken somewhat less sharp than it should have been. The error from this cause is, however, so slight that practically it is of no importance. The sum of the positive and negative residuals of the theoretical curve will give a better measure of the accidental errors than either of these quantities separately. It shows that we should not expect to reduce the total deviation below 34."69, and that by the curve with inflexion we have reduced it from 135."60 to 38."23. In other words, we have by the curve with inflexion eliminated about 96 per cent of the real deviations. This test, however, favors both the curves from bisections and those with inflexions, since both, like the theoretical curve, are based on the method of bisections. Even the analytical curve reduces the systematic errors 79 per cent, so that doubtless in the final residuals little remains but the accidental errors. That this method of estimating accidental errors is open to criticism is freely admitted, but it is here given because some measure appears needed, and its rejection will in no way affect the other parts of the discussion.

The above comparison has been confined to stars north of -5° ; but it is necessary to extend it to -35° , owing to the presence of stars in the secondary catalogue having a large southern declination to which the corrections are to be applied. The most southern groups of Table III. have therefore been redivided, and arranged like the northern stars in groups of 10° as shown in Table V. These give points for -15° , —



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25°, and — 35°. They show a much greater irregularity than the northern stars, as might be expected from their low altitude. The residuals are generally large numerically, have a negative sign, and form a strong argument in favor of the curves with inflexion, since these alone give a satisfactory agreement with their values. The latter curves were accordingly extended, and the ordinates are given in Table XI.

As a further test of the freedom from systematic errors of the residuals remaining from the curves by bisections, they were arranged in groups in the order of their magnitudes, and their number compared with that given by theory. In the annexed table, the third line gives the number of residuals contained between the limits given in the first and second line. The fourth line gives the theoretical distribution according to the probability curve, taking the probable error of a single point as .15". The last line gives the difference between lines three and four. The accordance is all that could be desired.

Limits {	"	"	"	"	"	"	"	"	"	"	"	"
	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1
	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	∞
Obs.	72	51	40	22	9	2	2	4	0	0	1	0
Calc.	70.5	58.0	38.8	21.3	9.6	3.6	1.0	0.2	0.1	0.1	0.0	0.0
Δ	+1.5	-7.0	+1.2	+0.7	-0.6	-1.6	+1.0	+3.8	-0.1	-0.1	+0.1	+0.0

To exhibit in detail the comparative forms of the various curves, they are figured on the opposite page. The observed points, or the original residuals, are shown by the crosses connected by straight lines, the theoretical curves by the dotted lines, the corrected curves obtained from bisections by the broken lines or dashes, and the curves with points of inflexion by the full lines. The analytical curves are extended in both directions by computing new values of a and b in the equation $y = a \sin \delta + b \cos \delta$. For the southern curve the conditions are introduced that the value of y for 0° shall be the same as in the original curve, and for — 35°, the same as the first residual of each part of Table III. For northern stars the value of y from the analytical curve for 60° is used, and for 85° the last residual of each part of Table III. Though open to the objection that the whole curve is not continuous, it produces the required points of inflexion, and gives results resembling those of the curves with inflexion.

The similarity of form of many of the curves, especially those of the later and more accurate observations, suggests the existence of systematic errors in the standard catalogue. This may also be determined, at least in a measure, by taking the average of the residuals of all the catalogues. This has been done in the last three lines of Table V., which give the means of the catalogues from 1755 to 1840, from 1840 to 1872, and from 1755 to 1872. These points are represented in the last three curves in the Plate, and to eliminate accidental errors the method of bisections is applied to them. The points thus found are connected by heavy straight lines. The existence of points of inflexion is thus shown in a marked manner.

Table IX. contains the corrections in thousandths of seconds of time, to be applied to the observed right ascensions, on account of errors depending on the right ascension, computed from those terms of the equations on page xxxv which are functions of the right ascension, plus the constant part of the equation. Table X. contains the corrections in thousandths of seconds of time, to be applied to the observed right ascensions, on account of errors depending on the declination. The values, after excluding the constant, are computed from those terms of the equations which are functions of the declination. Table XI. contains the corrections to be applied to the observed declinations derived graphically from the curves with inflexion.

TABLE IX.

CORRECTIONS TO BE APPLIED TO OBSERVED RIGHT ASCENSIONS ON ACCOUNT OF ERRORS
DEPENDING ON THE RIGHT ASCENSION.

(In thousandths of seconds of time.)

R. A.	Bradley, 1755.	D'Agelet, 1784.	Piazz, 1800.	Lalande, 1800.	Argelander, 1830.	Airy, 1830.	Pond, 1830.	Struve, 1830.	Fallows, 1830.	Johnson, 1830.	Taylor, 1835.	Edinburgh, 1840.	Robinson, 1840.	Gilliss, 1840.	Cambridge, 1840.	Greenwich, 1840.
0h	+ 4	+32	+109	+71	+14	-19	-49	-40	+32	-74	-50	+40	+20	+31	-93	+105
1	+ 1	+28	+110	+65	+15	-30	-32	-43	+40	-73	-35	+36	+20	+23	-94	+ 94
2	- 4	+19	+111	+55	+17	-38	-23	-46	+45	-70	-19	+32	+20	+16	-91	+ 81
3	- 9	+ 7	+113	+42	+19	-42	-21	-48	+49	-67	- 8	+29	+20	+11	-85	+ 68
4	-15	- 7	+114	+26	+21	-42	-26	-49	+52	-64	- 6	+27	+20	+ 5	-78	+ 55
5	-20	-24	+115	+ 8	+23	-39	-38	-48	+51	-62	-11	+28	+20	+ 1	-70	+ 45
6	-24	-42	+115	-10	+25	-33	-55	-45	+49	-62	-24	+31	+20	- 3	-65	+ 39
7	-28	-58	+115	-28	+26	-27	-74	-42	+45	-64	-39	+34	+20	- 9	-63	+ 35
8	-30	-73	+114	-44	+25	-24	-90	-38	+38	-66	-57	+37	+20	-15	-64	+ 35
9	-31	-86	+115	-57	+22	-24	-99	-36	+31	-66	-76	+39	+20	-22	-67	+ 39
10	-32	-95	+113	-66	+18	-27	-99	-36	+23	-66	-87	+40	+20	-28	-73	+ 45
11	-31	-100	+112	-71	+15	-32	-92	-39	+14	-64	-91	+40	+20	-31	-77	+ 50
12	-28	-100	+111	-71	+12	-39	-77	-42	+ 6	-58	-88	+38	+20	-31	-79	+ 55
13	-25	-96	+110	-67	+11	-44	-60	-46	- 1	-51	-80	+36	+20	-27	-79	+ 62
14	-20	-87	+109	-56	+12	-46	-43	-52	- 7	-44	-71	+34	+20	-18	-75	+ 68
15	-15	-75	+107	-43	+13	-42	-31	-56	-11	-38	-60	+34	+20	- 6	-71	+ 75
16	- 9	-61	+106	-26	+15	-34	-28	-57	-12	-34	-55	+35	+20	+ 9	-65	+ 83
17	- 4	-44	+105	- 8	+18	-23	-31	-56	-12	-34	-55	+36	+20	+23	-61	+ 91
18	+ 0	-26	+105	+10	+20	-13	-39	-53	-11	-38	-60	+39	+20	+35	-59	+100
19	+ 4	-10	+105	+28	+20	- 3	-50	-50	- 7	-44	-67	+42	+20	+45	-61	+109
20	+ 6	+05	+106	+44	+19	+ 4	-60	-45	+ 0	-53	-73	+45	+20	+49	-66	+116
21	+ 7	+18	+106	+57	+19	+ 4	-65	-40	+ 7	-62	-74	+47	+20	+48	-73	+119
22	+ 8	+27	+107	+66	+18	+ 0	-63	-38	+15	-68	-71	+46	+20	+45	-81	+119
23	+ 7	+32	+108	+71	+15	- 9	-56	-38	+24	-73	-63	+44	+20	+39	-88	+114

TABLE IX. — *Continued.*

CORRECTIONS TO BE APPLIED TO OBSERVED RIGHT ASCENSIONS ON ACCOUNT OF ERRORS
DEPENDING ON THE RIGHT ASCENSION.

(In thousandths of seconds of time.)

R. A.	Cambridge, 1845.	Oxford, 1845.	Greenwich, 1845.	Pulkova, 1845.	Argelander, 1866.	Engelmann, 1866.	Melbourne, 1870.	Greenwich, 1872.	Washington, 1872.	Oxford, 1872.	Harvard College, 1872.	Washington, II., 1860.	Paris, 1858-1866.	Brussels, 1858-1866.	Edinburgh, 1860-69.
0	-10	+41	+28	+14	- 5	+ 2	+61	+40	+10	+50	+19	+77	+62	+79	+50
1	-13	+46	+20	+18	- 9	- 1	+54	+38	+ 9	+43	+22	+68	+55	+70	+42
2	-14	+48	+10	+22	-12	- 6	+43	+34	+ 8	+35	+25	+57	+44	+59	+36
3	-16	+46	+ 2	+26	-16	-10	+30	+30	+ 9	+29	+26	+45	+33	+48	+31
4	-15	+34	- 5	+28	-19	-15	+18	+27	+ 9	+23	+25	+34	+22	+36	+27
5	-14	+15	- 9	+28	-21	-20	+ 6	+23	+ 7	+18	+22	+23	+13	+25	+24
6	-15	- 9	-10	+26	-23	-25	- 4	+20	+ 4	+15	+18	+14	+ 7	+16	+25
7	-16	-32	- 9	+22	-23	-30	-12	+18	+ 1	+13	+14	+ 7	+ 3	+10	+25
8	-19	-54	- 7	+18	-22	-33	-14	+17	- 2	+11	+10	+ 5	+ 2	+ 8	+24
9	-24	-70	- 2	+14	-21	-35	-10	+16	- 5	+10	+ 8	+ 9	+ 5	+10	+23
10	-29	-77	+ 4	+11	-18	-35	- 3	+15	- 7	+ 9	+ 8	+15	+ 9	+15	+21
11	-33	-74	+10	+11	-15	-35	+ 8	+16	- 6	+ 9	+11	+26	+14	+24	+19
12	-38	-63	+14	+12	-11	-34	+23	+18	- 4	+ 8	+15	+39	+20	+35	+19
13	-41	-46	+19	+15	- 7	-31	+38	+20	- 0	+ 9	+20	+54	+27	+48	+19
14	-40	-26	+24	+19	- 3	-27	+51	+21	+ 5	+13	+25	+67	+32	+60	+22
15	-34	- 8	+28	+23	+ 1	-23	+64	+24	+11	+18	+28	+79	+37	+70	+27
16	-27	+ 8	+32	+26	+ 4	-18	+72	+27	+16	+25	+29	+89	+43	+80	+35
17	-20	+18	+36	+26	+ 5	-12	+78	+31	+20	+35	+28	+95	+49	+89	+44
18	-13	+22	+39	+24	+ 7	- 7	+80	+34	+22	+43	+25	+98	+55	+94	+52
19	- 7	+24	+42	+20	+ 7	- 2	+80	+37	+23	+51	+20	+99	+60	+97	+58
20	- 4	+24	+44	+16	+ 7	+ 1	+80	+40	+21	+57	+17	+99	+66	+98	+62
21	- 2	+25	+44	+13	+ 5	+ 3	+76	+42	+17	+59	+15	+95	+69	+96	+63
22	- 4	+28	+42	+12	+ 2	+ 4	+70	+43	+14	+59	+15	+89	+70	+92	+62
23	- 7	+34	+36	+12	- 1	+ 3	+64	+42	+11	+55	+16	+84	+67	+86	+57

TABLE X.

CORRECTIONS TO BE APPLIED TO OBSERVED RIGHT ASCENSIONS ON ACCOUNT OF
ERRORS DEPENDING ON THE DECLINATION.

(In thousandths of seconds of time.)

δ	-35°	-25°	-15°	-5°	$+5^\circ$	$+15^\circ$	$+25^\circ$	$+35^\circ$	$+45^\circ$	$+55^\circ$	$+65^\circ$	$+75^\circ$	$+85^\circ$
Bradley . . 1755	+75	+60	+44	+26	+ 6	-12	-30	-49	-66	- 79	- 92	-101	-107
D'Agelet . . 1784	-14	-12	- 9	- 6	- 2	+ 1	+ 4	+ 8	+11	+ 14	+ 16	+ 18	+ 20
Piazzi . . . 1800	-98	-79	-58	-36	-11	+14	+37	+60	+83	+101	+116	+129	+137
Lalande . . 1800	+53	+41	+29	+15	+ 1	-13	-27	-41	-52	- 62	- 72	- 78	- 81
Argelander . 1830	+21	+17	+12	+ 8	+ 2	- 2	- 7	-13	-17	- 21	- 24	- 27	- 29
Airy . . . 1830	+ 8	+ 6	+ 4	+ 2	0	- 2	- 4	- 6	- 8	- 9	- 12	- 13	- 13
Pond . . . 1830	+50	+40	+29	+16	+ 2	-11	-24	-36	-47	- 57	- 64	- 70	- 74
Struve . . . 1830	-54	-45	-34	-22	- 9	+ 4	+17	+30	+41	+ 52	+ 60	+ 67	+ 72
Johnson . . 1830	+14	+12	+ 9	+ 6	+ 2	- 1	- 4	- 8	-11	- 14	- 16	- 18	- 20
Taylor . . . 1835	+ 1	+ 1	+ 1	0	0	- 1	- 1	- 1	- 1	- 2	- 2	- 2	- 2
Edinburgh . 1840	+34	+28	+21	+13	+ 5	- 5	-14	-22	-30	- 36	- 41	- 46	- 49
Gilliss . . . 1840	+16	+11	+ 6	+ 1	- 5	-10	-15	-20	-24	- 27	- 30	- 32	- 32
Cambridge . 1840	-33	-26	-19	-10	- 2	+ 7	+16	+23	+31	+ 38	+ 43	+ 46	+ 49
Greenwich . 1840	+15	+11	+ 6	+ 1	- 3	- 8	-13	-17	-21	- 24	- 25	- 27	- 28
Cambridge . 1845	- 5	- 3	- 2	- 1	- 1	0	+ 1	+ 3	+ 3	+ 4	+ 7	+ 6	+ 6
Oxford . . . 1845	-19	-16	-13	- 9	- 5	- 1	+ 2	+ 7	+11	+ 14	+ 17	+ 19	+ 21
Greenwich . 1845	+15	+12	+ 8	+ 4	0	- 4	- 8	-11	-15	- 18	- 20	- 22	- 23
Pulkova . . 1845	+18	+15	+11	+ 7	+ 3	- 1	- 5	-10	-13	- 17	- 20	- 22	- 24
Argelander . 1866	-32	-24	-16	- 7	+ 3	+12	+20	+28	+37	+ 42	+ 47	+ 50	+ 53
Engelmann . 1866	+52	+48	+42	+34	+26	+16	+ 6	- 4	-14	- 23	- 32	- 40	- 46
Melbourne . 1870	+ 4	+ 3	+ 2	+ 1	+ 1	0	- 1	- 2	- 3	- 3	- 5	- 5	- 5
Greenwich . 1872	+16	+13	+ 9	+ 5	+ 1	- 3	- 7	-12	-15	- 18	- 20	- 22	- 24
Washington . 1872	-12	-11	- 8	- 5	- 3	0	+ 3	+ 6	+ 8	+ 11	+ 13	+ 15	+ 16
Oxford . . . 1872	-10	- 8	- 7	- 5	- 3	- 1	0	+ 4	+ 5	+ 7	+ 8	+ 10	+ 11
Harvard College 1872	-35	-29	-22	-14	- 6	+ 2	+11	+19	+27	+ 33	+ 39	+ 44	+ 47
Washington II. 1860	-37	-31	-24	-16	- 8	0	+ 9	+17	+24	+ 32	+ 38	+ 43	+ 46
Paris . 1858-1866	-25	-21	-17	-11	- 5	+ 1	+ 7	+13	+18	+ 24	+ 29	+ 32	+ 33
Brussels 1858-1866	- 1	- 3	- 3	- 8	- 3	- 3	- 3	- 3	- 3	- 3	- 2	- 2	- 1
Edinburgh 1860-69	+65	+53	+40	+25	+10	- 6	-21	-35	-49	- 61	- 72	- 79	- 85

TABLE XI.

SYSTEMATIC CORRECTIONS TO BE APPLIED TO OBSERVED DECLINATIONS.

δ	-35°	-25°	-15°	-5°	$+5^\circ$	$+15^\circ$	$+25^\circ$	$+35^\circ$	$+45^\circ$	$+55^\circ$	$+65^\circ$
Bradley . . . 1755	" +0.00	" -0.27	" -0.51	" -0.66	" -0.73	" -0.72	" -0.65	" -0.50	" -0.34	" -0.12	" +0.20
D'Agelet . . . 1784	....	-1.20	-0.94	-0.80	-0.79	-0.81	-0.77	-0.63	-0.02	+0.87	....
Piazzi . . . 1800	-2.90	-2.50	-2.10	-2.00	-2.30	-2.50	-2.40	-1.80	-0.90	+0.00	+0.70
Lalande . . . 1800	-1.25	-1.64	-2.00	-2.25	-2.53	-2.48	-2.37	-1.95	-1.25	-0.58	+0.00
Argelander . . 1830	....	-2.30	-1.73	-1.24	-1.05	-1.04	-1.01	-0.76	-0.28	+0.15	+0.70
Airy . . . 1830	-2.80	-2.20	-1.65	-1.00	-0.58	-0.70	-0.96	-1.20	-1.13	-0.48	+0.25
Pond . . . 1830	....	-3.10	-2.55	-2.05	-1.90	-1.88	-1.81	-1.50	-0.90	-0.30	+0.35
Struve . . . 1830	....	....	-1.26	-0.88	-0.73	-0.62	-0.51	-0.39	-0.19	+0.10	+0.46
Fallows . . . 1830	-0.70	-0.70	-0.70	-0.70	-0.70	-0.70	-0.70	-0.70	....	....	....
Johnson . . . 1830	-2.22	-1.30	+0.14	+0.90	+0.88	+0.76	+0.66	+0.60	+0.57	+0.59	+0.64
Taylor . . . 1835	-2.04	-1.52	-0.98	-0.87	-1.00	-1.00	-0.80	-0.46	+0.02	+0.60	+1.20
Edinburgh . . 1840	....	....	-0.24	-0.46	-0.64	-0.74	-0.77	-0.70	-0.55	-0.30	+0.00
Robinson . . . 1840	....	-1.00	-0.84	-0.70	-0.64	-0.62	-0.62	-0.62	-0.55	-0.39	-0.14
Cambridge . . 1840	....	....	-0.94	-1.01	-1.08	-1.13	-1.14	-1.09	-0.96	-0.62	-0.03
Greenwich . . 1840	-0.37	-0.23	-0.16	-0.16	-0.24	-0.39	-0.53	-0.52	-0.32	-0.10	+0.14
Cambridge . . 1845	....	....	+0.00	-0.48	-0.90	-1.14	-1.24	-1.26	-1.11	-0.86	-0.30
Oxford . . . 1845	-1.26	-0.80	-0.42	-0.32	-0.50	-0.83	-0.90	-0.72	-0.44	-0.09	+0.42
Greenwich . . 1845	-1.00	-0.73	-0.41	-0.37	-0.39	-0.47	-0.53	-0.54	-0.46	-0.21	+0.10
Pulkova . . . 1845	-0.21	-0.12	-0.04	+0.00	+0.01	-0.06	-0.09	-0.10	-0.10	-0.06	+0.03
Argelander . . 1866	....	-1.36	-1.13	-0.85	-0.65	-0.54	-0.48	-0.51	-0.75	-0.66	-0.23
Engelmann . . 1866	....	-1.30	-1.02	-0.82	-0.68	-0.54	-0.42	-0.32	-0.24	-0.15	-0.06
Melbourne . . 1870	-1.90	-1.49	-1.13	-0.79	-0.49	-0.22	+0.04	+0.30	+0.62	+0.93	....
Bruhns . . . 1870	....	....	-0.45	-0.39	-0.40	-0.41	-9.45	-0.48	-0.49	-0.44	-0.26
Greenwich . . 1872	-2.10	-1.76	-1.44	-1.05	-0.92	-0.74	-0.70	-0.78	-0.91	-0.96	-0.72
Washington . . 1872	-1.63	-1.14	-0.79	-0.60	-0.49	-0.48	-0.56	-0.64	-0.58	-0.45	-0.26
Oxford . . . 1872	-0.94	-0.61	-0.38	-0.20	-0.14	-0.15	-0.22	-0.26	-0.25	-0.16	+0.03
Harvard College 1872	-1.65	-0.74	-0.31	-0.01	+0.10	+0.12	+0.07	-0.06	-0.24	-0.33	-0.16

ADOPTED VALUES OF THE PROPER MOTION.

Table XII., from which the values of the proper motion are derived, is constructed in the following manner:—

(a) The precessions were computed by the aid of Argelander's table, for four intervals of twenty years each, and in order to render them as free as possible from errors depending on the proper motion, the coördinates with which they were computed were derived from observations made near the epochs chosen.

(b) The coördinates of the various authorities were brought forward to 1875.0 by means of the precessions for the middle dates. If p, p_1, p_2 represent the values of the precession constant at equi-distant epochs, the expression $\frac{1}{6} [p + 4p_1 + p_2]$ will give the value for the middle date, true to the fourth power of the time.

(c) The systematic corrections derived from Tables IX., X., and XI. were then applied to these coördinates, and the mean epoch of observation was found. The epoch of the various catalogues was assumed to be the mean epoch of observation, except for 21 stars having large proper motions.

(d) The observations were arranged in four groups, and the following empirical system of weights was applied in finding the mean positions under each group. The weights in different groups, therefore, are not comparable. For stars having large proper motions, the coördinates were reduced to the mean year with the aid of provisional values of the proper motion, and the weights were then applied. The weight of unity only is given to the Harvard College declinations, since the division errors are yet to be applied.

GROUP II.						GROUP IV.		
	R.A. wt.	δ wt.		R.A. wt.	δ wt.		R.A. wt.	δ wt.
D'Agelet . 1784	2	2	Fallows . . 1830	2	1	Argelander . . 1866	1	2
Piazzi . . 1800	3	2	Johnson . . 1830	2	1	Engelmann . . 1866	1	2
Lalande . . 1800	1	1	Taylor . . 1835	1	1	Melbourne . . 1870	1	1
			Edinburgh . 1840	2	2	Bruhns 1870	—	4
			Robinson . 1840	1	$\frac{1}{2}$	Greenwich . . 1872	1	2
			Cambridge . 1840	2	2	Washington . . 1872	1	2
			Greenwich . 1840	2	4	Oxford 1872	1	2
			Cambridge . 1845	3	2	Harvard College . 1872	1	1
			Oxford . . 1845	1	3			
			Greenwich . 1845	3	4			
			Pulkova . . 1845	6	5			
GROUP III.								
Argelander . 1830	5	3						
Airy . . . 1830	3	2						
Pond . . . 1830	1	2						
Struve . . 1830	2	3						

(e) The proper motions were then found by comparing groups IV. and I., IV. and II., IV. and III., III. and I. In this provisional discussion, it was considered sufficient to adopt for the final values, the mean of the first three values combined with the fourth value, giving one-half weight to the latter.

It will be seen, from a comparison of the values thus derived with those given in the various Greenwich catalogues, that considerable differences exist in a large number of cases. The most marked of these are collected in Table XIII., and for these, the individual values from the different groups are given. Since rather too much weight has been given to group IV., a new group was formed in doubtful cases by bringing forward to 1875 the positions of the various catalogues for 1860 and 1864, and comparing the values thus found with those of groups I., II., and III. The mean results are found in the last column. The values in the first column in each part of the table are taken from the Greenwich catalogues in the following order of preference; 1864, 1860, 1850, 1845.

TABLE XII.

ELEMENTS WHICH DETERMINE THE PROPER MOTION.

STAR.	R. A. δ	IN RIGHT ASCENSION.								IN DECLINATION.											
		GROUP I.	GROUP II.		GROUP III.		GROUP IV.		GROUP I.	GROUP II.		GROUP III.		GROUP IV.							
		Seconds of R. A. for 1875.0.	No. of Authorities.	Mean Year of Observations.	Seconds of R. A. for 1875.0.	No. of Authorities.	Mean Year of Observations.	Seconds of R. A. for 1875.0.	No. of Authorities.	Mean Year of Observations.	Seconds of δ for 1875.0.	No. of Authorities.	Mean Year of Observations.	Seconds of δ for 1875.0.	No. of Authorities.	Mean Year of Observations.	Seconds of δ for 1875.0.				
		1755.	1790 +		1800 +		1800 +		1755.	1790 +		1800 +		1800 +							
35 Piscium . . .	0.1 + 8.1	31.84	2	10	32.02	9	39.4	32.28	1	72.0	32.62	39.8	2	10	38.1	8	39.4	36.4	1	72.0	38.5
θ Andromedæ . .	0.2 +37.9	34.44	3	4.7	34.13	5	38.0	34.12	3	72.0	34.11	17.3	3	4.7	16.2	4	37.5	15.4	3	72.0	15.3
ι Sculptoris . . .	0.3 -29.7	....	2	10	14.07	1	35.0	14.20	3	68.0	14.24	....	2	10	21.0	1	35.0	(19.2)	3	68.0	22.3
12 Cassiopeiæ . .	0.3 +61.1	54.32	2	10	54.32	5	41.0	54.48	2	72.0	54.53	17.3	2	10	15.9	5	41.0	17.2	2	72.0	16.6
Piazzi O. 79 . . .	0.4 -33.7	....	1	10	44.07	1	35.0	43.84	2	71.0	43.69	....	1	10	47.4	1	35.0	50.1	2	71.0	51.8
Piazzi O. 130 . .	0.5 -25.5	....	2	10	47.56	2	37.5	51.74	1	72.0	55.04	....	2	10	19.0	3	38.3	20.1	1	72.0	19.6
ξ Cassiopeiæ . . .	0.6 +49.8	5.87	1	10	6.11	3	40.0	5.95	1	72.0	6.02	38.0	2	10	36.8	3	40.0	34.8	2	71.0	35.6
β Ceti	0.6 -18.7	17.09	3	4.2	17.51	14	37.5	18.24	7	70.1	18.80	26.8	3	4.2	24.8	12	37.5	24.5	7	70.1	24.1
ν Andromedæ . .	0.7 +40.4	55.44	2	10	55.38	5	38.0	55.50	2	72.0	55.63	53.9	3	4.7	52.9	5	38.0	52.6	2	72.0	51.6
α Sculptoris . . .	0.9 -30.0	....	1	10	35.03	6	35.0	34.95	1	72.0	34.91	....	1	10	2.6	5	36.0	0.5	1	72.0	1.6
μ Cassiopeiæ . . .	1.0 +54.3	11.44	1	13.1	26.68	4	39.0	43.94	2	71.6	56.63	208.9	1	13.1	140.5	7	40.7	75.2	2	71.6	27.9
37 Ceti	1.1 - 8.6	5.57	2	10	5.56	8	38.1	5.84	1	72.0	6.26	76.1	2	10	63.7	5	36.0	54.2	1	72.0	44.7
ω Andromedæ . .	1.3 +44.7	7.06	3	2.6	7.98	5	39.0	9.91	1	72.0	10.98	50.5	3	2.6	44.7	5	39.0	41.4	1	72.0	36.9
A Cassiopeiæ . . .	1.4 +69.6	....	....	....	....	3	36.7	56.43	3	72.0	57.44	....	....	....	....	3	36.7	16.2	3	72.0	13.9
Piazzi I. 109 . . .	1.5 -37.5	....	1	10	20.18	1	35.0	20.61	1	72.0	20.49	....	1	10	22.7	1	35.0	28.6	1	72.0	30.5
τ Andromedæ . . .	1.5 +39.9	11.76	3	4.7	11.89	3	40.0	12.41	2	72.0	12.42	42.3	3	4.7	38.0	3	40.0	35.7	2	72.0	34.6
Piazzi 170	1.7 +37.3	....	1	10	15.97	3	37.5	16.25	1	72.0	16.67	....	2	10	46.6	3	35.0	47.1	2	72.0	45.6
χ Ceti	1.7 -11.3	28.07	1	8.5	28.01	7	35.0	27.18	3	68.0	26.89	7.9	2	8.5	13.6	6	35.0	17.2	4	68.5	19.7
ζ Ceti	1.8 -10.9	17.32	2	10	17.21	8	35.7	17.37	2	72.0	17.46	0.7	1	10	8.1	5	33.0	11.8	2	72.0	12.1
λ Arietis pr. . . .	1.8 +22.9	58.78	2	10	58.70	5	35.0	58.22	2	72.0	58.02	9.6	3	4.7	8.9	4	33.8	7.7	2	72.0	7.0
ν Ceti	1.9 -21.7	....	....	....	....	5	35.0	6.50	1	72.0	6.91	....	....	....	....	3	31.7	3.7	1	72.0	4.6
27 Arietis	2.4 +17.1	58.19	2	10	58.32	6	40.8	58.43	2	72.0	58.53	69.7	2	10	66.0	5	41.0	61.9	2	72.0	58.7
σ Ceti	2.4 -15.8	10.39	2	10	10.18	8	36.2	10.03	1	72.0	9.83	28.2	2	10	28.7	6	36.7	35.4	1	72.0	40.0
τ^1 Eridani	2.7 -19.1	13.48	2	10	14.37	5	38.0	15.24	1	72.0	16.12	13.7	1	10	14.2	5	39.0	12.5	1	72.0	11.3
12 Eridani	3.1 -29.5	....	1	7.4	44.04	7	36.4	44.80	2	72.0	45.63	....	1	7.4	99.4	6	37.5	76.2	2	72.0	52.8
ζ Eridani	3.2 - 9.3	45.89	2	10	45.77	8	38.1	45.80	1	72.0	45.77	10.6	2	10	10.3	7	37.9	11.2	1	72.0	8.1
κ Ceti	3.2 + 2.9	46.25	2	10	46.94	1	32.5	47.62	1	72.0	48.38	34.6	2	10	30.1	2	32.5	33.2	1	72.0	37.7
δ Eridani	3.6 -10.2	16.35	2	10	16.28	9	36.1	15.89	3	71.5	15.69	104.9	2	10	72.4	8	35.6	46.3	3	71.5	20.1
τ^1 Eridani	3.7 -24.3	16.82	2	10	17.18	7	35.0	16.98	1	72.0	17.20	52.7	2	10	51.8	5	33.0	50.7	1	72.0	49.0
Piazzi III. 183 . .	3.7 -38.0	....	1	10	58.57	2	32.5	58.80	2	71.0	59.16	....	1	10	11.2	....	....	....	2	70.0	14.5
γ Eridani	3.9 -13.9	11.37	3	4.7	11.67	12	39.5	11.69	7	70.0	11.89	42.9	3	4.7	47.8	10	38.7	52.0	8	70.0	56.1
λ Persei	3.9 +50.0	16.76	1	10	16.57	5	39.0	16.63	1	72.0	16.74	40.7	2	10	37.0	6	39.2	36.0	3	71.3	34.7
Piazzi III. 249 . .	4.0 +17.0	....	1	10	49.85	5	35.0	49.87	1	72.0	50.08	....	1	10	14.0	4	36.2	14.4	1	72.0	14.0
p Tauri	4.0 +26.1	13.39	2	10	13.33	2	37.5	(13.62)	2	72.0	13.29	13.8	2	10	9.7	1	35.0	10.2	2	72.0	9.7
σ^2 Eridani	4.1 - 7.9	48.75	1	10	42.05	6	34.2	37.44	2	72.6	31.51	2.1	1	10	156.4	5	33.0	271.8	2	72.6	408.7
64 Tauri	4.3 +17.1	52.44	3	4.7	52.65	8	39.4	53.13	3	72.0	53.47	13.3	3	4.7	13.4	7	40.0	9.7	3	72.0	8.4
ν^3 Eridani	4.3 -34.3	....	1	10	20.13	4	33.7	20.32	1	72.0	20.54	....	1	10	35.3	3	35.0	35.6	1	72.0	31.1
80 Tauri	4.4 +15.3	0.23	2	2.0	0.36	6	38.3	0.74	2	72.0	1.04	47.2	3	4.7	49.6	5	37.0	46.1	3	72.0	45.6
85 Tauri	4.4 +15.6	42.75	3	4.7	42.81	4	36.2	43.12	2	72.0	43.45	56.9	3	4.7	54.9	4	40.0	54.1	2	72.0	52.9
ρ Tauri	4.4 +14.6	44.19	3	4.7	44.71	4	38.8	45.08	1	72.6	45.36	49.9	3	4.7	50.3	5	39.0	46.7	1	72.0	46.4
53 Eridani	4.5 -14.5	27.40	2	10	27.68	6	36.7	27.55	1	72.0	27.40	39.3	2	10	47.5	5	36.0	54.7	1	72.0	59.8
π^3 Orionis	4.7 + 6.7	59.14	2	7.4	60.94	4	35.0	62.04	1	72.1	63.25	28.1	2	7.4	26.5	5	36.0	26.4	1	72.1	28.9
σ^1 Orionis	4.7 +14.0	27.74	2	10	27.62	7	39.3	27.76	1	72.0	27.78	33.5	2	10	28.3	6	39.2	27.0	1	72.0	25.6
ν Leporis	5.2 -12.4	11.11	2	10	10.93	2	37.5	11.11	1	72.0	11.10	45.2	2	10	44.2	2	37.5	44.2	1	72.0	44.6
m Orionis	5.3 + 3.4	15.67	2	10	15.87	5	36.0	15.81	1	72.0	15.91	21.5	2	10	18.9	4	35.0	19.5	2	72.0	20.2
ψ Orionis	5.3 + 3.0	17.21	2	10	17.22	4	37.5	17.32	1	72.0	17.35	9.8	2	10	7.6	3	36.7	8.9	1	72.0	8.5
α Leporis	5.4 -17.9	12.79	3	4.7	12.95	10	37.5	13.06	6	69.7	13.05	49.0	3	4.7	49.7	8	36.9	48.7	6	69.7	49.3
ζ Leporis	5.7 -14.9	17.58	1	10	17.39	6	36.7	17.57	1	72.0	17.54	13.5	1	10	13.4	4	35.0	13.0	1	72.0	13.5
β Columbæ	5.8 -35.8	....	1	18	32.97	4	35.0	33.15	2	71.0	33.23	....	1	18	30.0	4	33.7	16.8	2	71.0	2.5
γ Columbæ	5.9 -35.3	....	1	10	6.21	5	33.0	6.33	2	71.0	6.37	....	1	10	55.9	3	35.0	54.7	2	71.0	53.4

TABLE XII. — *Continued.*

STAR.	R. A.	δ	IN RIGHT ASCENSION								IN DECLINATION.											
			GROUP I.	GROUP II.			GROUP III.			GROUP IV.			GROUP I.	GROUP II.			GROUP III.			GROUP IV.		
			Seconds of R. A. for 1875.0.	No. of Authorities.	Mean Year of Observations.	Seconds of R. A. for 1875.0.	No. of Authorities.	Mean Year of Observations.	Seconds of R. A. for 1875.0.	No. of Authorities.	Mean Year of Observations.	Seconds of R. A. for 1875.0.	Seconds of δ for 1875.0.	No. of Authorities.	Mean Year of Observations.	Seconds of δ for 1875.0.	No. of Authorities.	Mean Year of Observations.	Seconds of δ for 1875.0.	No. of Authorities.	Mean Year of Observations.	Seconds of δ for 1875.0.
			1755.	1790 +			1800 +			1800 +			1755.	1790 +			1800 +			1800 +		
μ Orionis . . .	5.9	+ 9.6	30.21	2	10	30.03	4	36.2	30.37	1	72.0	30.43	....	2	10	46.7	3	35.0	44.3	1	72.0	41.7
Piazz V. 327 . .	6.0	-26.3	....	1	10	12.92	2	37.5	13.14	1	72.0	13.43	....	1	10	14.0	1	35.0	13.4	1	72.0	7.0
θ Columbæ . . .	6.0	-37.3	....	1	10	14.08	3	35.0	14.56	1	72.0	14.51	....	1	10	15.2	2	32.5	13.0	1	72.0	12.2
k Orionis seq. .	6.1	+12.3	24.61	2	10	25.10	3	35.0	25.24	1	72.0	25.49	66.4	2	10	62.7	2	32.5	68.1	1	72.0	76.8
β Canis Majoris	6.3	-17.9	11.66	2	10	11.59	8	35.6	11.71	2	72.0	11.74	43.6	2	10	48.7	7	34.3	44.5	2	72.0	42.3
Piazz VI. 110 . .	6.3	-36.6	....	1	10	41.09	1	35.0	41.03	1	72.0	40.94	....	1	10	40.5	1	35.0	40.4	1	72.0	37.3
ν Geminorum . .	6.3	+20.3	....	2	10	32.31	6	38.3	32.38	4	72.0	32.46	....	2	10	22.5	6	36.7	21.2	4	72.0	21.1
Piazz VI. 136 . .	6.4	-32.5	....	1	10	32.35	3	31.7	32.46	2	72.0	32.30	....	1	10	15.4	3	31.7	13.7	2	72.0	9.8
13 Monocerotis .	6.4	+ 7.4	8.54	2	10	8.63	4	36.2	8.67	1	72.0	8.75	23.6	2	10	19.3	3	35.0	20.9	1	72.0	20.5
Piazz VI. 164 . .	6.5	-31.9	....	1	10	57.87	1	35.0	58.57	1	72.0	58.36	....	1	10	20.9	1	35.0	22.4	1	72.0	20.0
ψ^4 Aurigæ . . .	6.6	+44.6	59.49	2	10	59.41	6	40.0	59.12	1	72.0	59.12	33.7	2	10	34.0	7	40.0	31.8	1	72.0	30.0
α Canis Majoris	6.7	-16.5	42.57	3	4.3	41.19	13	16.2	39.77	5	71.6	38.44	21.2	3	4.3	69.4	13	36.5	121.2	6	71.3	162.3
ψ^7 Aurigæ . . .	6.7	+41.9	....	2	10	55.85	4	41.2	55.61	1	72.0	55.54	48.7	2	10	43.3	4	41.2	37.4	1	72.0	33.1
α^1 Canis Majoris	6.8	-24.1	56.71	1	10	56.70	4	35.0	56.76	1	72.0	56.79	47.0	1	10	(43.2)	3	33.3	47.4	1	72.0	45.9
ϵ Canis Majoris	6.9	-28.8	42.64	2	2.0	42.63	10	36.5	42.74	6	69.7	42.82	12.2	2	2.0	11.1	7	37.9	13.1	6	69.7	12.8
γ Canis Majoris	7.0	-15.4	5 95	2	10	6.03	7	35.0	6.16	6	69.7	6.19	59.5	2	10	59.9	4	33.8	60.8	6	69.7	60.6
δ Canis Majoris	7.0	-26.2	18.50	1	10	18.43	8	36.9	18.53	2	72.0	18.55	47.8	1	10	48.3	8	37.5	46.7	3	72.0	47.4
22 Monocerotis .	7.0	- 0.3	28.72	2	10	28.85	6	35.8	28.84	1	72.0	28.86	16.7	2	10	16.6	5	35.0	16.0	1	72.0	16.0
66 Aurigæ . . .	7.2	+40.9	28.84	2	2.0	28.89	3	40.0	28.87	1	72.0	28.94	39.8	3	4.7	40.8	3	40.0	38.9	1	72.0	37.4
η Canis Majoris	7.3	-2.91	9.30	1	10	(8.74)	9	36.1	9.07	3	71.3	9.10	38.6	2	2.0	42.2	8	36.9	39.6	3	71.3	39.3
6 Canis Minoris	7.4	+12.2	50.19	2	2.0	50.07	4	38.7	50.32	2	72.0	50.31	48.9	2	2.0	48.4	3	38.3	47.8	2	72.0	47.8
α Geminorum . .	7.5	+34.9	0.55	3	4.7	0.32	2	37.5	0.35	2	72.0	0.26	....	3	4.7	18.0	2	37.5	10.5	2	72.0	7.8
26 Monocerotis .	7.6	- 9.3	17.24	2	10	16.89	4	33.8	16.70	1	72.0	16.54	37.8	2	10	37.6	4	33.8	39.5	1	72.0	40.8
4 Navis . . .	7.7	-14.3	11.50	2	10	11.35	3	38.3	11.58	1	72.0	11.54	40.9	2	10	40.2	3	38.3	42.6	1	72.0	41.8
α Navis . . .	7.7	-25.6	....	1	10	53.17	3	38.3	53.40	1	72.0	53.41	....	1	10	41.8	2	37.5	43.3	1	72.0	40.9
ϕ Geminorum . .	7.8	+27.1	50.88	3	4.7	50.78	10	38.5	50.77	2	72.0	50.69	17.7	3	4.7	15.0	10	39.0	14.9	3	72.0	13.8
ι Navis . . .	8.0	-23.9	13.89	2	10	13.37	9	38.9	13.45	7	70.0	13.28	51.1	2	10	46.3	8	38.8	45.3	7	70.0	43.7
ζ Cancri pr. . .	8.0	+18.0	1.68	2	4.7	1.94	9	38.3	2.26	2	72.0	2.47	35.6	2	4.7	32.0	9	40.0	26.6	2	72.0	23.5
20 Navis . . .	8.1	-15.4	35.26	2	10	35.21	5	35.0	35.25	1	72.0	35.27	46.7	2	10	45.5	4	33.8	47.6	1	72.0	47.5
w Navis . . .	8.3	-32.6	....	1	10	27.50	1	35.0	(27.99)	1	72.0	27.73	....	1	10	29.6	1	35.0	29.5	1	72.0	30.4
B. A. C. 2846 . .	8.4	-25.7	....	....	....	1	35.0	35.55	2	71.0	35.41	....	....	....	....	1	35.0	12.9	3	71.3	14.2	
B. A. C. 2887 . .	8.5	+53.8	....	....	....	2	42.5	1.78	1	72.0	1.60	....	....	....	....	1	45.0	5.6	1	72.0	4.5	
δ Hydræ . . .	8.5	+ 6.1	2.80	2	10	2.42	6	39.2	2.34	1	72.0	2.28	17.2	3	4.7	17.4	5	39.0	17.4	1	72.0	18.7
6 Hydræ . . .	8.6	-12.0	6.84	2	10	6.42	3	38.3	6.39	1	72.0	6.17	4.5	2	10	5.5	2	37.5	6.6	1	72.0	7.5
γ Cancri . . .	8.6	+21.9	3.90	3	4.7	3.57	8	37.5	3.29	3	72.0	3.02	59.0	3	4.7	62.8	7	37.1	60.4	4	72.0	59.5
α Hydræ . . .	8.7	+ 6.3	48.77	3	4.7	48.70	4	36.2	48.67	1	72.0	48.63	57.9	2	2.0	55.8	3	35.0	53.8	1	72.0	51.7
35 Lyncis . . .	8.7	+44.2	32.91	1	10	33.01	4	41.2	33.07	1	72.0	33.09	18.6	1	10	23.5	4	41.2	22.4	1	72.0	22.8
κ Cancri . . .	9.0	+11.2	58.52	2	10	58.59	10	33.0	58.57	3	72.0	58.53	11.7	2	10	9.3	7	40.0	11.6	4	72.0	11.2
Piazz IX. 265 . .	9.0	-25.3	....	1	10	33.21	2	37.5	33.44	1	72.0	33.64	....	1	10	20.7	1	35.0	16.9	1	72.0	18.6
ϵ Mali . . .	9.0	-29.8	....	1	10	38.59	2	37.5	38.74	1	72.0	38.60	....	1	10	22.5	2	40.0	22.5	2	72.0	22.9
h Mali . . .	9.2	-25.4	....	1	10	57.51	6	34.2	57.69	2	71.0	57.60	....	1	10	(10.4)	5	36.0	4.4	2	71.0	5.2
42 Lyncis . . .	9.5	+40.8	33.12	2	10	33.68	3	40.0	33.14	1	72.0	33.11	59.1	2	10	58.7	3	40.0	59.0	1	72.0	58.3
ι Hydræ . . .	9.5	- 0.5	27.79	2	10	27.92	6	35.8	28.19	1	72.0	28.28	25.7	2	10	32.0	5	35.0	32.6	1	72.0	35.9
ψ Leonis . . .	9.6	+14.6	55.28	3	4.7	55.36	8	38.8	55.32	2	72.0	55.38	33.2	3	4.7	32.2	6	40.0	32.6	2	72.0	32.7
ϕ Ursæ Majoris .	9.7	+54.7	....	....	....	6	40.0	35.21	1	72.0	35.32	....	....	....	....	7	40.0	48.8	2	72.0	48.8	
B. A. C. 3398 . .	9.8	+ 9.5	48.82	1	10	48.83	2	37.5	48.57	1	72.0	48.30	23.2	2	10	26.2	2	37.5	27.7	1	72.0	27.4
ν^2 Hydræ . . .	10.0	-12.4	2.31	2	10	2.40	3	38.3	2.29	1	72.0	2.27	41.7	2	10	35.7	3	38.3	33.8	1	72.0	36.2
λ Hy																						

TABLE XII. — *Continued.*

STAR.	R. A.	δ	IN RIGHT ASCENSION.								IN DECLINATION.											
			GROUP I.	GROUP II.			GROUP III.			GROUP IV.	GROUP I.	GROUP II.			GROUP III.			GROUP IV.				
			Seconds of R. A. for 1875.0.	No. of Authorities.	Mean Year of Observations.	Seconds of R. A. for 1875.0.	No. of Authorities.	Mean Year of Observations.	Seconds of R. A. for 1875.0.	No. of Authorities.	Mean Year of Observations.	Seconds of δ for 1875.0.	No. of Authorities.	Mean Year of Observations.	Seconds of δ for 1875.0.	No. of Authorities.	Mean Year of Observations.	Seconds of δ for 1875.0.				
	<i>h.</i>	<i>m.</i>	<i>s.</i>			<i>s.</i>			<i>s.</i>		"			"			"					
δ^1 Piazzi X. 135 . . .	10.6	+46.9	....	1	11	13.69	2	37.5	12.51	1	72.3	11.75	....	1	11	41.1	2	37.5	39.1	1	72.3	36.5
δ^1 Hydræ . . .	10.7	-16.6	44.98	2	10	44.65	2	37.5	44.75	1	72.0	44.69	17.7	2	10	15.4	2	37.5	16.5	1	72.0	19.7
ω Ursæ Majoris . . .	10.8	+43.9	46.02	2	10	46.25	5	39.0	46.41	2	72.0	46.65	20.5	3	4.7	19.3	6	39.2	18.3	2	72.0	16.7
54 Leonis . . .	10.8	+25.4	....	....	....	....	6	35.8	50.71	2	72.0	50.58	....	....	....	4	33.8	57.3	2	72.0	57.7	
Piazzi X. 199 . . .	10.8	-36.4	....	1	10	53.77	1	35.0	53.49	1	72.0	53.70	....	1	10	49.3	1	35.0	55.7	1	72.0	60.8
α Crateris . . .	10.9	-17.6	45.00	2	4.2	43.34	9	35.5	42.39	1	72.3	41.22	17.5	2	9.2	11.6	8	36.9	6.1	1	72.3	2.2
p^4 Leonis . . .	11.0	+ 2.6	34.78	3	3.2	33.56	3	38.3	32.59	1	72.3	31.71	10.5	3	3.2	10.4	3	38.3	4.2	1	72.3	1.0
β Crateris . . .	11.1	-22.1	30.48	2	10	30.79	5	33.0	30.69	1	72.0	30.71	25.0	2	10	30.7	6	35.0	33.7	1	72.0	39.7
η Leonis . . .	11.1	+14.0	19.41	2	2.0	19.33	8	39.4	19.45	2	72.0	19.47	21.6	2	2.0	22.3	7	38.5	20.7	2	72.0	18.8
δ Crateris . . .	11.2	-14.1	6.50	2	10	6.07	11	38.2	5.82	7	70.0	5.57	31.1	2	10	22.1	10	38.5	16.3	8	70.0	10.3
λ Crateris . . .	11.3	-18.1	12.66	2	9.1	11.72	4	37.5	11.20	1	72.3	10.19	32.3	2	9.1	32.4	3	35.0	36.9	1	72.3	37.4
γ Crateris . . .	11.3	-17.0	39.29	2	10	38.62	6	34.2	38.44	4	69.0	38.34	54.8	2	10	52.1	6	35.0	51.9	4	69.0	53.1
τ Leonis . . .	11.3	+ 3.5	30.33	3	4.7	30.21	11	39.1	30.45	3	72.0	30.54	41.7	3	4.7	41.3	10	39.0	39.9	4	72.0	40.1
ξ Hydræ . . .	11.4	-31.1	53.26	1	10	52.25	4	33.7	52.18	2	71.0	51.43	55.3	1	10	56.2	3	31.7	58.0	2	71.0	59.1
B. A. C. 3934 . . .	11.5	-32.2	29.49	1	10	29.11	3	38.3	27.27	2	71.5	25.43	48.5	1	10	62.0	2	37.5	42.5	1	72.0	15.1
B. A. C. 3973 . . .	11.6	+42.4	....	2	10	59.64	1	40.0	59.74	1	72.0	59.82	....	2	10	58.9	2	37.5	57.9	1	72.0	57.3
b Virginis . . .	11.9	+ 4.4	32.70	3	4.7	32.79	8	39.4	32.75	2	72.0	32.82	6.3	3	4.7	6.3	8	39.4	5.2	2	72.0	5.1
67 Ursæ Majoris . . .	11.9	+43.8	49.03	3	5.5	47.99	4	40.0	46.62	1	72.3	45.74	14.3	3	5.5	17.0	5	40.0	18.1	1	72.3	19.2
α Corvi . . .	12.0	-24.0	57.39	1	10	....	5	33.0	57.99	1	72.0	58.11	47.7	2	10	50.7	4	31.2	51.8	1	72.0	54.3
ϵ Corvi . . .	12.0	-21.9	42.31	3	4.7	42.06	5	35.0	42.13	6	69.7	41.92	29.1	3	4.7	30.6	4	33.7	28.4	4	68.5	29.4
γ Corvi . . .	12.1	-16.8	24.13	3	4.7	23.55	8	35.0	23.21	3	68.0	22.87	55.2	3	4.7	54.7	10	37.0	53.1	3	68.0	52.1
12 Comæ . . .	12.3	+26.5	13.21	3	4.7	13.24	4	33.7	13.17	1	72.0	13.27	23.9	3	4.7	23.4	4	33.7	23.4	2	72.0	23.5
13 Comæ . . .	12.3	+26.8	2.32	3	4.7	1.92	5	35.0	2.23	1	72.0	2.23	34.1	3	4.7	31.1	4	33.7	31.5	1	72.0	31.3
15 Comæ . . .	12.3	+29.0	43.13	1	10	42.76	5	35.0	42.62	2	72.0	42.38	59.8	2	10	54.5	4	33.7	51.7	2	72.0	48.7
δ Corvi . . .	12.4	-15.8	24.85	2	10	24.96	11	36.4	24.43	3	72.0	23.91	51.9	2	10	58.4	8	36.9	64.9	2	72.0	68.9
η Corvi . . .	12.4	-15.5	41.47	2	8.3	40.12	7	35.5	38.98	1	71.3	37.89	5.7	2	8.3	7.2	6	35.0	10.9	1	71.3	11.8
β Corvi . . .	12.5	-22.7	49.95	2	10	49.35	12	37.5	49.44	7	70.0	49.43	11.8	2	10	16.3	11	38.2	17.6	7	70.0	18.6
f Virginis . . .	12.5	- 5.1	21.36	3	4.7	21.18	3	38.3	21.11	1	72.0	21.13	30.9	3	4.7	31.8	3	38.3	33.0	1	72.0	33.8
χ Virginis . . .	12.5	- 7.3	48.29	3	4.7	48.03	5	37.0	47.89	1	72.0	47.79	22.5	3	4.7	25.8	5	38.0	25.5	2	71.0	26.5
B. A. C. 4287 . . .	12.6	+46.1	....	....	....	....	2	42.5	15.16	1	72.0	15.17	....	....	....	....	3	41.7	25.8	1	72.0	26.5
35 Virginis . . .	12.7	+ 4.3	29.53	3	4.7	29.51	2	37.5	29.50	3	72.0	29.57	21.2	3	4.7	21.0	3	38.3	20.7	3	72.0	19.5
31 Comæ . . .	12.7	+28.2	36.48	3	4.7	36.33	3	38.3	36.45	2	72.0	36.54	18.8	3	4.7	18.2	2	37.5	17.8	3	72.0	16.9
36 Comæ . . .	12.9	+18.1	44.59	3	4.7	44.37	3	35.0	44.51	1	72.0	44.56	55.7	3	4.7	59.6	3	35.0	59.7	2	72.0	60.8
14 Can. Ven. . .	13.0	+36.5	53.38	3	4.7	53.77	5	37.0	53.70	1	72.0	53.67	4.6	3	4.7	2.4	4	37.5	4.3	2	72.0	5.6
Piazzi XIII. 27 . . .	13.1	+40.8	....	2	10	3.02	3	40.0	2.93	1	72.0	2.81	....	2	10	55.5	4	40.0	53.6	1	72.0	54.9
63 Virginis . . .	13.3	-17.1	19.99	3	4.7	19.63	2	37.5	19.71	1	72.0	19.59	42.8	3	4.7	45.5	3	38.3	46.5	1	72.0	48.6
α Virginis . . .	13.3	-10.5	36.89	3	4.7	36.76	15	37.0	36.67	4	71.5	36.58	30.5	3	4.7	27.5	14	36.8	28.8	5	71.2	29.8
70 Virginis . . .	13.4	+14.5	20.88	2	7.3	20.23	4	36.2	19.59	2	71.9	19.05	116.6	2	7.3	92.7	3	35.0	72.6	2	71.9	51.2
B. A. C. 4513 . . .	13.4	+24.9	....	....	....	....	....	....	....	1	72.0	56.65	....	....	....	....	....	....	....	1	72.0	56.9
25 Can. Ven. . .	13.5	+36.9	....	....	....	....	2	35.0	54.64	2	72.0	54.42	....	....	....	....	2	37.5	51.8	2	72.0	52.6
m Virginis . . .	13.6	- 8.1	4.04	3	4.7	3.53	10	39.0	3.43	4	72.0	3.21	20.1	3	4.7	19.6	8	38.1	19.7	4	72.0	17.8
83 Virginis . . .	13.6	-15.5	45.14	....	....	....	4	38.8	45.27	1	72.0	45.34	57.2	1	10	57.4	3	38.3	58.1	1	72.0	58.4
87 Virginis . . .	13.7	-17.2	37.26	3	4.7	37.02	2	37.5	37.48	1	72.0	37.62	55.5	3	4.7	54.6	2	37.5	59.9	1	72.0	59.8
h Centauri . . .	13.8	-31.3	....	....	....	....	5	36.0	1.26	1	72.0	1.21	....	....	....	....	4	33.8	34.4	1	72.0	34.7
9 Bootis . . .	13.8	+28.1	51.24	3	4.7	51.46	4	36.2	51.56	2	72.0	51.67	26.8	3	4.7	23.5	3	35.0	21.9	1	72.0	21.1
θ Centauri . . .	14.0	-35.7	24.97	2	3.8	23.54	5	33.0	21.82	2	69.4	20.17	3.9	1	13.5	31.9	3	35.0	56.4	2	69.4	74.2
14 Bootis . . .	14.																					

TABLE XII. — *Continued.*

STAR.	R. A.	δ	IN RIGHT ASCENSION.								IN DECLINATION.							
			GROUP I.	GROUP II.			GROUP III.			GROUP IV.	GROUP I.	GROUP II.			GROUP III.			GROUP IV.
			Seconds of R. A. for 1875.0.	No. of Authorities.	Mean Year of Observations.	Seconds of R. A. for 1875.0.	No. of Authorities.	Mean Year of Observations.	Seconds of R. A. for 1875.0.	No. of Authorities.	Seconds of δ for 1875.0.	No. of Authorities.	Mean Year of Observations.	Seconds of δ for 1875.0.	No. of Authorities.	Mean Year of Observations.	Seconds of δ for 1875.0.	No. of Authorities.
			1755.	1790 +			1800 +			1800 +	1755.	1790 +			1800 +			1800 +
	<i>h.</i>	<i>m.</i>	<i>s.</i>		<i>s.</i>			<i>s.</i>			<i>"</i>		<i>"</i>			<i>"</i>		<i>"</i>
ξ Bootis . . .	14.7	+19.6	36.15	3	4.7	36.38	6	36.7	37.04	1	72.0	37.43	25.8	3	4.7	19.8	5	36.0
δ Libræ . . .	14.9	— 8.0	18.24	3	4.7	18.11	9	37.2	17.93	2	72.0	17.77	16.1	3	4.7	15.8	8	38.9
c Bootis . . .	15.0	+25.4	47.19	2	4.4	47.33	5	35.0	48.05	1	71.5	48.65	45.3	2	4.4	37.5	5	36.0
ϵ Libræ . . .	15.1	—19.3	6.10	2	2.0	6.09	11	39.1	6.05	3	72.0	5.92	57.6	3	4.7	58.2	9	40.0
B. A. C. 5009 .	15.1	—31.0	58.42	1	10	58.28	1	35.0	58.23	1	72.0	58.15	0.5	1	10	1.6	1	35.0
ϵ Libræ . . .	15.3	— 9.9	26.14	3	4.7	25.82	5	37.0	25.64	1	72.0	25.51	0.3	3	4.7	4.4	3	38.3
ψ^1 Lupi . . .	15.5	—34.0	....	1	10	49.96	1	35.0	49.98	1	72.0	49.94	2.3	1	10	6.6	1	35.0
ψ^2 Lupi . . .	15.6	—34.3	44.13	1	10	43.54	1	35.0	43.60	1	72.0	43.39	17.5	1	10	23.7	1	35.0
λ Libræ . . .	15.8	—19.8	4.93	3	4.7	4.70	6	36.7	4.85	1	72.0	4.83	27.7	3	4.7	25.5	5	36.0
δ Scorpii . . .	15.9	—22.3	56.75	3	4.7	56.65	13	37.7	56.70	4	71.5	56.68	49.1	3	4.7	49.7	9	39.4
β Scorpii . . .	15.9	—19.5	10.24	3	4.7	10.31	13	36.9	10.23	7	70.0	10.24	39.2	3	4.7	39.3	11	37.3
κ Herculis . .	16.0	+17.4	26.61	3	4.7	26.20	4	35.0	26.13	2	72.0	26.07	53.9	3	4.7	52.2	4	33.8
ν Scorpii seq.	16.1	—19.1	43.93	3	4.7	43.99	10	35.5	43.94	5	71.6	43.94	0.7	3	4.7	0.8	7	31.9
α Scorpii . . .	16.4	—26.1	44.71	2	10	44.82	13	38.1	44.73	5	71.6	44.74	6.3	2	10	7.4	10	38.5
τ Scorpii . . .	16.5	—28.0	6.19	2	2.0	6.20	12	38.3	6.22	2	71.0	6.18	15.0	2	2.0	13.9	9	38.9
ζ Ophiuchi . .	16.5	—10.3	16.40	2	10	16.52	7	36.4	16.59	4	72.0	16.62	47.7	2	10	45.5	7	38.6
24 Scorpii . . .	16.6	—17.5	21.00	3	4.7	20.83	8	35.0	20.84	3	72.0	20.77	55.0	3	4.7	55.7	5	36.0
ι Ophiuchi . .	16.8	+10.4	6.12	2	10	5.91	7	38.6	5.75	1	72.0	5.66	25.5	2	10	24.7	5	38.0
η Ophiuchi . .	17.0	—15.6	12.36	2	2.0	12.51	13	37.3	12.53	3	72.0	12.62	18.4	2	2.0	14.7	12	37.9
B. A. C. 5804 .	17.1	—33.4	....	1	10	6.97	1	35.0	6.87	1	72.0	7.06	....	1	10	4.5	1	35.0
θ Ophiuchi . .	17.2	—24.9	20.10	2	10	20.01	11	39.1	20.07	6	70.7	20.04	17.8	2	10	18.1	7	38.6
w Herculis . .	17.3	+32.6	57.73	3	5.2	58.20	3	35.0	58.58	2	71.6	59.03	169.8	3	5.2	132.0	3	35.0
44 Ophiuchi . .	17.3	—24.0	44.22	2	10	44.31	6	38.3	44.23	5	71.6	44.26	15.2	2	10	20.3	3	35.0
ν Scorpii . . .	17.4	—37.2	16.24	1	10	16.18	3	30.0	16.17	1	72.0	15.99	29.8	1	10	33.3	3	31.7
λ Scorpii . . .	17.4	—37.0	7.26	1	10	7.42	4	31.2	7.40	1	72.0	7.30	38.3	1	10	34.0	3	35.0
μ Ophiuchi . .	17.5	— 8.0	3.19	2	10	3.04	5	33.0	3.08	1	72.0	3.04	25.7	2	10	23.5	3	31.7
58 Ophiuchi . .	17.6	—21.6	57.26	3	4.7	57.13	10	37.5	56.66	3	72.0	56.47	14.6	3	4.7	11.0	8	37.5
β Sagittarii . .	17.7	—27.8	42.14	2	10	41.64	7	37.9	41.58	3	72.0	41.58	48.9	2	10	49.2	8	38.9
Piazzi XVII. 289 .	17.8	+40.0	....	1	10	0.62	1	35.0	0.69	1	72.0	0.72	30.3	1	10	33.8	1	35.0
89 Herculis . .	17.8	+26.1	22.41	2	2.0	22.53	3	41.7	22.53	4	72.0	22.66	14.0	2	2.0	16.2	2	37.5
γ^2 Sagittarii . .	18.0	—30.4	47.15	2	10	47.26	10	38.5	46.96	2	72.0	46.71	57.0	2	10	66.5	7	37.8
Piazzi XVII. 359 .	18.0	—28.5	....	2	10	9.84	4	33.7	10.01	2	72.0	9.92	....	2	10	5.7	3	31.7
μ Sagittarii . .	18.1	—21.1	17.47	3	4.7	17.30	13	37.7	17.31	6	69.7	17.30	21.5	2	10	20.9	12	38.7
η Sagittarii . .	18.1	—36.8	....	1	10	11.17	1	30.0	10.54	2	71.0	10.19	....	....	....	....	1	40.0
δ Sagittarii . .	18.2	—29.9	....	1	10	59.22	7	36.4	59.47	2	71.0	59.51	....	1	10	43.8	7	37.1
B. A. C. 6318 .	18.4	+59.4	....	1	10	58.79	1	45.0	58.76	1	72.0	58.99	....	1	10	57.7	2	42.5
1 Aquilæ . . .	18.5	— 8.3	21.57	3	4.7	21.38	5	37.0	21.35	2	72.0	21.31	8.7	3	4.7	21.4	3	36.7
2 Aquilæ . . .	18.6	— 9.2	25.67	3	4.7	25.59	7	33.6	25.77	2	72.0	25.75	12.4	2	10	10.4	4	31.2
B. A. C. 6419 .	18.7	+52.9	....	1	10	55.34	1	40.0	55.39	1	72.0	55.38	....	1	10	1.0	1	40.0
σ Sagittarii . .	18.8	—26.4	....	....	....	....	13	37.7	30.87	5	71.6	30.81	....	....	....	....	12	38.7
δ^1 Lyræ . . .	18.8	+36.8	21.44	3	4.7	21.65	2	37.5	21.52	1	72.0	21.59	59.8	3	4.7	59.5	2	37.5
50 Draconis . .	18.8	+75.3	25.06	....	....	....	3	38.3	24.25	3	72.0	23.99	59.6	....	....	....	3	38.3
g Aquilæ . . .	18.9	— 3.9	19.23	3	4.7	19.62	1	35.0	19.54	1	72.0	19.52	45.1	3	4.7	40.7	1	35.0
π Sagittarii . .	19.0	—21.2	19.87	3	4.7	19.83	14	38.2	19.76	4	72.0	19.77	10.2	3	4.7	9.8	11	38.6
Piazzi XIX. 4 .	19.1	—21.9	....	2	2.0	59.75	2	37.5	59.68	1	72.0	59.88	....	1	10	47.0	2	37.5
ψ Sagittarii . .	19.1	—25.5	52.25	2	2.0	52.42	5	38.0	52.37	4	72.0	52.51	9.4	1	10	10.0	2	32.5
d Sagittarii . .	19.2	—19.2	19.36	1	10	19.47	11	38.2	19.29	2	72.0	19.25	25.0	1	10	23.8	10	38.0
χ Sagittarii pr.	19.3	—24.7	39.77	3	4.7	39.85	5	40.0	39.87	2	72.0	40.06	51.0	2	10	52.5	3	40.0
4 Cygni . . .	19.4	+36.1	39.01	1	10	38.82	2	37.5	38.97	1	72.0	39.04	3.2	1	10	4.7	2	37.5
h^2 Sagittarii . .	19.5	—25.2	5.41	2	10	5.52	11	37.7	5.80	5	70.4	5.91	26.0	2	10	25.2	8	36.9
κ Aquilæ . . .	19.5	— 7.3	9.93	1	10	9.96	6	34.2	9.92	2	72.0	9.97	13.9	2	10	12.3	4	33.8
ϵ Sagittæ . . .	19.5	+16.2	37.62	1	10	37.90	4	36.2	37.83	2	72.0	37.88	57.3	1	10	59.6	3	35.0
B. A. C. 6737 .	19.5	+63.2	....	1	10	26.87	....	....	....	1	72.0	26.48	....	1	10	23.9	....	....
β Sagittæ . . .	19.6	+17.2	25.92	2	2.0	26.00	4	36.2	26.01	1	72.0	26.10	18.7	2	2.0	17.8	3	35.0
Piazzi XIX. 243	19.6	—32.2	....	1	10	2.83	1	35.0	2.66	2	71.0	2.58	....	1	10	26.6	2	40.0

TABLE XII. — *Continued.*

STAR.	R. A.	δ	IN RIGHT ASCENSION.								IN DECLINATION.												
			GROUP I.	GROUP II.			GROUP III.			GROUP IV.		GROUP I.	GROUP II.			GROUP III.			GROUP IV.				
			Seconds of R. A. for 1875.0.	No. of Authorities.	Mean Year of Observations.	Seconds of R. A. for 1875.0.	No. of Authorities.	Mean Year of Observations.	Seconds of R. A. for 1875.0.	No. of Authorities.	Mean Year of Observations.	Seconds of δ for 1875.0.	No. of Authorities.	Mean Year of Observations.	Seconds of δ for 1875.0.	No. of Authorities.	Mean Year of Observations.	Seconds of δ for 1875.0.	No. of Authorities.	Mean Year of Observations.	Seconds of δ for 1875.0.		
	<i>h.</i>	<i>m.</i>	<i>s.</i>			<i>s.</i>			<i>s.</i>		<i>''</i>			<i>''</i>			<i>''</i>			<i>''</i>			<i>''</i>
ζ Sagittæ . . .	19.7	+	18.8	25.31	2	10	25.49	4	33.8	25.66	2	72.0	25.75	43.1	2	10	46.4	4	33.8	46.5	2	72.0	47.0
ε Draconis . . .	20.0	+	64.5	8.87	2	10	8.46	3	36.7	8.68	3	72.0	8.87	19.2	2	10	18.7	2	35.0	19.1	3	72.0	16.1
B. A. C. 6924 . . .	20.0	+	56.0	....	1	10	31.37	1	45.0	31.10	1	72.0	31.03	....	1	10	46.5	1	45.0	46.6	1	72.0	50.7
20 Vulpeculæ . . .	20.1	+	26.1	46.16	3	4.7	45.98	2	37.5	46.20	1	72.0	46.20	25.2	3	4.7	24.0	2	37.5	23.9	1	72.0	25.2
ρ Aquilæ . . .	20.1	+	14.8	29.03	2	10	29.28	4	33.8	29.41	2	72.0	29.57	56.5	2	10	62.8	3	31.7	62.2	2	72.0	66.0
α ¹ Capricorni . . .	20.2	−	12.9	43.06	2	10	43.08	11	35.9	43.05	3	71.3	43.05	35.2	2	10	33.7	8	35.6	34.9	2	71.0	35.8
α ² Capricorni . . .	20.2	−	12.9	6.63	2	10	6.78	15	37.0	6.92	5	71.6	7.07	51.3	2	10	49.6	13	36.2	51.1	6	71.3	51.1
β Capricorni . . .	20.2	−	15.2	58.98	3	4.7	59.13	11	38.2	59.11	3	72.0	59.19	31.3	3	4.7	27.3	6	36.7	28.7	4	72.0	29.3
B. A. C. 7008 . . .	20.3	+	39.0	....	1	10	43.21	1	40.0	43.35	1	72.0	43.43	....	2	10	35.0	1	40.0	37.8	1	72.0	36.5
π Capricorni . . .	20.3	−	18.6	9.85	2	10	9.83	11	36.8	9.87	3	72.0	9.88	13.2	2	10	10.4	9	37.2	11.5	3	72.0	13.2
ρ Capricorni . . .	20.4	−	18.2	44.06	2	10	43.76	9	36.1	43.77	5	70.4	43.76	30.5	3	4.7	27.2	9	37.2	28.8	6	70.3	31.3
41 Cygni . . .	20.4	+	30.0	17.16	3	4.7	17.19	4	36.2	17.24	3	72.0	17.32	7.5	3	4.7	9.7	3	35.0	8.6	3	72.0	8.8
ζ Delphini . . .	20.5	+	14.2	27.55	3	4.7	25.59	5	38.0	27.75	1	72.0	27.87	36.7	3	4.7	38.8	4	37.5	38.8	1	72.0	38.8
ω Aquarii . . .	20.8	−	9.5	54.39	1	10	54.43	10	39.0	54.55	4	72.0	54.62	0.5	1	10	58.4	9	38.9	2.5	4	72.0	4.3
12 Year Cat. 1879	20.8	+	80.1	11.13	....	....	....	4	38.3	12.05	2	72.0	11.90	....	....	....	....	4	38.8	57.4	3	72.0	55.5
Piazzi XX. 429	20.9	+	50.0	....	2	10	29.72	2	32.5	29.59	1	72.0	29.89	....	2	10	37.7	2	32.5	36.6	2	71.0	37.3
η Capricorni . . .	20.9	−	20.3	17.68	2	10	17.60	12	37.1	17.38	3	72.0	17.38	47.7	3	4.7	48.5	9	37.2	51.3	3	72.0	53.6
γ Equulei . . .	21.0	+	9.6	15.12	2	10	15.39	4	36.2	15.61	1	72.0	15.78	65.9	3	4.7	55.9	3	35.0	51.1	1	72.0	45.6
σ Cygni . . .	21.2	+	38.9	30.29	3	4.7	30.06	4	37.5	30.33	2	72.0	30.44	19.5	3	4.7	16.9	4	37.5	17.5	2	72.0	16.5
δ Capricorni . . .	21.3	−	22.4	34.53	2	10	(34.57)	4	36.2	35.30	3	72.0	35.61	60.2	1	10	58.2	3	35.0	60.8	3	72.0	61.6
ρ Cygni . . .	21.5	+	45.0	17.00	3	4.7	16.90	4	38.8	16.87	1	72.0	16.83	33.9	3	4.7	29.9	4	38.8	26.5	1	72.0	22.9
ξ Aquarii . . .	21.5	−	8.4	4.98	2	10	5.34	9	37.8	5.50	4	72.0	5.77	46.7	2	10	46.2	10	38.0	48.3	4	72.0	50.2
γ Capricorni . . .	21.5	−	17.2	8.10	3	4.7	8.55	12	36.2	9.34	5	70.8	9.77	31.0	3	4.7	30.0	13	38.1	32.4	6	70.1	33.0
κ Capricorni . . .	21.6	−	19.4	39.61	2	10	39.77	9	36.7	40.18	3	72.0	40.55	5.1	2	10	4.4	8	36.2	5.7	3	72.0	6.2
δ Capricorni . . .	21.7	−	16.7	6.39	2	10	7.15	12	36.3	7.71	4	72.0	8.39	2.8	2	10	13.5	12	37.5	25.6	4	72.0	36.1
14 Pegasi . . .	21.7	+	29.6	18.72	2	10	18.91	4	36.2	18.83	1	72.0	18.98	37.1	3	4.7	36.2	3	35.0	35.3	1	72.0	35.2
μ Capricorni . . .	21.8	−	14.2	26.06	3	4.7	26.86	12	37.9	27.97	2	72.0	28.66	23.2	3	4.7	20.8	10	36.5	21.3	2	72.0	21.7
Piazzi XXI. 336	21.8	+	55.6	54.29	1	10	53.89	2	37.5	54.24	1	72.0	54.38	32.2	1	10	26.0	2	37.5	25.3	1	72.0	25.3
μ Cephei . . .	21.8	+	56.0	(41.25)	1	10	41.01	5	38.0	41.15	1	72.0	41.18	12.4	1	10	13.0	5	38.3	11.2	1	72.0	10.8
η Piscis Aust. . .	21.9	−	29.1	39.17	2	10	39.36	2	37.5	39.23	2	72.0	39.17	9.9	2	10	8.2	1	35.0	9.8	2	72.0	9.9
o Aquarii . . .	21.9	−	2.8	50.69	2	2.0	50.78	5	33.0	50.79	1	72.0	50.91	28.3	1	84.0	28.9	4	33.8	28.7	1	72.0	29.1
Piazzi XXII. 36	22.1	+	39.1	....	3	4.7	30.61	3	35.0	30.71	2	72.0	30.87	....	3	4.7	42.7	3	35.0	43.4	2	72.0	43.0
ρ Aquarii . . .	22.2	−	8.5	37.30	2	10	37.45	4	37.5	37.20	2	72.0	37.23	53.0	3	4.7	51.0	5	38.0	52.4	2	72.0	53.6
B. A. C. 7803 . . .	22.3	+	43.1	....	....	....	....	1	10.0	41.63	1	72.0	41.73	....	....	....	....	1	10.0	58.2	1	72.0	56.9
π Aquarii . . .	22.3	+	0.7	53.50	2	10	53.53	5	38.0	53.58	2	72.0	53.58	37.5	2	10	38.0	5	38.0	37.2	2	72.0	36.3
ζ Aquarii med. . .	22.4	−	0.6	22.25	3	4.7	22.79	14	38.2	23.22	2	72.0	23.67	36.3	3	4.7	34.8	12	38.7	33.7	2	72.0	32.1
β Piscis Aust. . .	22.4	−	33.0	23.27	1	10	23.49	5	36.0	28.60	2	71.0	23.70	6.7	1	10	10.1	5	36.0	12.1	2	71.0	11.7
226 B. Cephei . . .	22.5	+	75.6	....	....	....	....	1	30.0	4.69	3	72.0	4.32	....	....	....	....	1	30.0	57.6	3	72.0	56.0
ε Piscis Aust. . .	22.6	−	27.7	44.32	2	10	44.23	5	36.0	44.30	1	72.0	44.37	41.3	1	10	41.3	6	37.5	42.6	1	72.0	42.4
δ Aquarii . . .	22.8	−	16.5	1.33	3	4.7	1.09	9	35.6	1.04	3	72.0	0.90	5.6	3	4.7	2.5	9	37.2	6.2	3	72.0	7.0
α Piscis Aust. . .	22.8	−	30.3	41.49	1	10	42.51	9	37.8	43.41	5	71.6	44.32	42.6	1	10	52.0	6	37.5	58.0	4	71.5	64.0
Piazzi XXII. 262	22.9	−	30.1	....	1	10	45.40	1	40.0	45.25	1	72.0	45.40	....	1	10	56.1	1	45.0	57.8	1	72.0	53.5
55 Pegasi . . .	23.0	+	8.7	42.35	2	10	42.47	3	35.0	42.43	1	72.0	42.46	5.7	3	4.7	5.8	3	35.0	4.7	1	72.0	4.0
c ² Aquarii . . .	23.0	−	21.9																				

TABLE XIII.

IN RIGHT ASCENSION.								IN DECLINATION.							
STAR.	R. A.	μ from Green- wich Catalogues.	μ from Groups I. and IV.	μ from Groups II. and IV.	μ from Groups III. and IV.	μ from Groups I. and III.	μ from Groups I., II., III., V.	STAR.	R. A.	μ from Green- wich Catalogues.	μ from Groups I. and IV.	μ from Groups II. and IV.	μ from Groups III. and IV.	μ from Groups I. and III.	μ from Groups I., II., III., V.
	<i>h.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>		<i>h.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>
12 Cassiopeiae	0.3	-.003	+.0018	+.0030	+.0016	+.0019	+.0030	ϵ Sculptoris	0.3	-.10	.....	-.019	.....	.....	-.010
ξ Cassiopeiae	0.6	+.004	+.0013	-.0013	+.0022	+.0009	.....	Pi. O. 130	0.5	-.10	.....	-.008	+.015	.....	+.021
τ Androm.	1.6	+.011	+.0056	+.0070	+.0003	+.0076	+.0047	37 Ceti . . .	1.1	+.033	+.268	+.264	+.261	+.270	.....
χ Ceti . . .	1.7	-.017	-.0105	-.0161	-.0088	-.0111	-.0146	τ Androm. .	1.6	-.09	-.065	-.044	-.034	-.078	.....
27 Arietis . .	2.4	+.000	+.0029	+.0029	+.0032	+.0028	.....	Pi. I. 170	1.7	+.01	.....	-.014	-.041	.....	-.013
σ Ceti . . .	2.4	-.001	-.0048	-.0049	-.0056	-.0044	.....	ζ Ceti . . .	1.7	-.12	-.097	-.055	-.008	-.142	-.068
12 Eridani . .	3.1	+.029	.....	+.0213	+.0233	.....	+.0202	λ Arietis . .	1.8	+.00	-.022	-.025	-.019	-.024	.....
ρ Tauri . . .	4.0	+.003	-.0009	-.0006	.....	.....	-.0015	σ Ceti . . .	2.4	-.07	-.101	-.157	-.130	-.088	-.126
80 Tauri . . .	4.4	+.088	+.0069	+.0085	+.0090	+.0061	.....	v^3 Eridani . .	4.3	-.01	.....	+.058	+.122	.....	+.074
ρ Tauri . . .	4.5	+.014	+.0100	+.0084	+.0084	+.0106	.....	85 Tauri . . .	4.4	-.06	-.034	-.026	-.037	-.033	.....
ν Leporis . .	5.2	+.005	-.0001	+.0023	-.0003	+.0000	-.0016	ν Leporis . .	5.2	+.04	+.005	-.006	-.011	+.012	.....
k Orionis . .	6.1	+.011	+.0075	+.0054	+.0068	+.0079	.....	β Columbae .	5.8	+.28	.....	+.437	+.383	.....	+.440
ν Geminor. .	6.3	-.002	.....	+.0021	+.0024	.....	+.0026	γ Columbae .	5.9	-.07	.....	+.035	+.036	.....	+.067
Pi. VI. 136	6.4	+.001	.....	-.0007	-.0040	.....	-.0036	μ Orionis . .	5.9	-.01	.....	-.069	-.062	.....	.....
22 Monoc. . .	7.1	+.004	+.0012	+.0001	+.0006	+.0015	.....	β Canis Maj.	6.3	-.02	+.011	+.089	+.059	-.011	+.025
ζ Cancri pr.	8.1	+.004	+.0067	+.0069	+.0062	+.0069	.....	Pi. VI. 164	6.5	-.11	.....	+.012	+.065	.....	+.017
6 Hydrae . . .	8.6	-.002	-.0057	-.0035	-.0065	-.0054	.....	σ Geminor. .	7.5	-.30	.....	-.132	-.078	.....	-.102
γ Cancri . .	8.1	-.011	-.0075	-.0071	-.0078	-.0074	.....	w Navis . . .	8.3	-.08	.....	-.011	-.024	.....	+.015
e Mali . . .	9.1	+.002	.....	+.0001	-.0041	.....	-.0022	ρ Hydrae . . .	8.7	-.03	-.053	-.051	-.057	-.051	.....
i Hydrae . . .	9.6	+.008	+.0041	+.0050	+.0025	+.0050	.....	h Mali . . .	9.3	+.11	.....	.....	-.023	.....	-.037
B.A.C. 3398	9.8	-.002	-.0044	-.0074	-.0078	-.0030	.....	i Hydrae . . .	9.6	-.11	-.087	-.054	-.089	-.086	-.069
v^2 Hydrae . .	10.0	+.004	-.0004	-.0018	-.0006	-.0002	.....	B.A.C. 3398	9.8	+.00	+.036	+.017	-.009	+.054	+.023
ω Ursae Maj.	10.8	+.002	+.0054	+.0055	+.0073	+.0046	.....	v^2 Hydrae . .	10.0	+.08	+.047	-.007	-.071	.....	+.036
54 Leonis . .	10.8	+.005	.....	.....	-.0036	.....	.....	α Antliae . .	10.4	-.05	.....	+.021	+.046	.....	+.108
Pi. X. 199	10.8	-.005	.....	-.0010	+.0059	.....	+.0013	Pi. X. 135	10.6	+.03	.....	-.065	-.075	.....	-.078
β Crateris . .	11.1	+.006	+.0020	-.0011	+.0005	+.0027	.....	b^1 Hydrae . .	10.7	+.01	-.017	-.060	-.093	+.014	-.032
b Virginis . .	11.9	-.002	+.0010	+.0004	+.0022	+.0006	.....	ω Ursae Maj.	10.8	-.06	-.032	-.034	-.047	-.026	.....
α Corvi . . .	12.0	+.010	+.0061	.....	+.0031	+.0077	.....	Pi. X. 199	10.9	-.20	.....	-.160	-.138	.....	.....
β Corvi . . .	12.5	-.008	-.0045	+.0011	-.0003	-.0062	-.0018	67 Ursae Maj.	11.9	+.02	+.042	+.029	+.034	+.045	.....
63 Virginis . .	13.3	-.001	-.0034	-.0005	-.0035	-.0034	.....	Pi. XIII. 27	13.1	-.06	.....	-.008	+.041	.....	+.036
70 Virginis . .	13.4	-.019	-.0156	-.0158	-.0151	-.0159	.....	m Virginis . .	13.6	+.00	+.020	+.023	+.056	+.005	+.048
m Virginis . .	13.6	-.010	-.0071	-.0041	-.0067	-.0072	.....	h Centauri . .	13.8	-.06	.....	.....	-.008	.....	.....
87 Virginis . .	13.7	+.001	+.0031	+.0078	+.0041	+.0027	+.0043	14 Bootis . . .	14.1	-.06	+.052	+.076	+.057	+.050	.....
θ Centauri . .	14.0	-.051	-.0420	-.0446	-.0453	-.0404	.....	ξ Bootis . . .	14.8	-.14	-.095	-.066	-.017	-.130	.....
2 Librae . . .	14.3	-.004	-.0008	-.0011	+.0003	-.0012	.....	ϵ Librae . . .	15.6	-.19	-.144	-.166	-.181	-.130	-.160
ψ^2 Lupi . . .	15.6	-.003	-.0063	-.0021	-.0057	-.0066	-.0067	λ Librae . . .	15.8	-.01	-.026	-.067	.....	-.012	.....
44 Ophiuchi .	17.3	-.002	+.0003	-.0007	+.0009	+.0001	.....	w Herculis .	17.3	-1.00	-1.026	-1.065	-1.058	.....	-1.050
ν Scorpii . .	17.4	+.002	-.0021	-.0026	-.0043	-.0009	.....	λ Scorpii . .	17.4	+.05	-.009	-.074	-.105	+.036	+.002
λ Scorpii . .	17.4	+.007	+.0003	-.0017	-.0024	+.0018	-.0022	Pi. XVII. 359	18.0	-.11	.....	-.021	-.069	.....	-.042
58 Ophiuchi .	17.6	-.010	-.0067	-.0085	-.0055	-.0073	.....	χ Sagittarii .	19.3	-.03	-.061	-.077	-.094	-.048	.....
μ Sagittarii .	18.1	-.004	-.0015	-.0000	-.0003	-.0019	.....	4 Cygni . . .	19.4	+.05	+.020	+.011	-.014	+.034	+.012
δ Sagittarii .	18.2	-.001	.....	+.0041	+.0011	.....	+.0025	h^2 Sagittarii .	19.5	+.02	-.014	-.034	-.057	+.004	-.021
50 Draconis .	18.8	-.016	-.0091	.....	-.0077	-.0097	.....	ϵ Sagittae . .	19.5	+.06	+.013	-.011	-.003	+.020	.....
γ Aquilae . .	18.9	+.005	+.0025	-.0013	-.0005	+.0039	-.0013	β Sagittae . .	19.6	+.02	-.026	-.027	-.051	-.015	.....
π Sagittarii .	19.0	-.004	-.0009	-.0003	+.0003	-.0013	.....	ζ Sagittae . .	19.7	+.07	+.033	+.008	+.013	+.043	.....
ζ Sagittae pr.	19.7	+.007	+.0037	+.0036	+.0023	+.0044	.....	b Capricorni .	21.3	+.04	-.012	-.047	-.022	-.007	.....
ρ Aquilae . .	20.1	+.001	+.0046	+.0040	+.0042	+.0048	.....	μ Cephei . . .	21.9	-.05	-.014	-.016	-.012	-.014	.....
α^2 Capricorni	20.2	+.001	+.0038	+.0040	+.0043	+.0036	.....	Pi. XXII. 36	22.1	-.16	.....	+.004	-.011	.....	+.000
β Capricorni .	20.2	-.001	+.0018	+.0008	+.0024	+.0016	.....	β Piscis Aust.	22.4	-.07	-.043	-.022	+.011	-.067	+.004
π Capricorni .	20.3	-.002	+.0003	+.0007	+.0003	+.0002	.....	δ Aquarii . .	22.8	+.00	-.012	-.058	-.023	-.007	.....
ρ Capricorni .	20.4	-.006	-.0026	-.0000	-.0003	-.0036	.....	55 Pegasi . . .	23.0	+.01	-.015	-.023	-.019	-.012	.....
12 Yr. Ct. 1879	20.8	-.008	+.0056	.....	-.0044	+.0110	.....	b^3 Aquarii . .	23.4	+.04	+.012	+.010	+.027	+.005	.....
η Capricorni .	20.9	-.006	-.0025	-.0031	-.0000	-.0036	.....	i^1 Aquarii . .	23.6	+.03	-.003	-.015	+.003	-.005	.....
κ Capricorni .	21.6	+.005	+.0080	+.0108	+.0105	+.0070	.....	δ Sculptoris .	23.7	-.10	.....	-.126	-.158	.....	-.136
Pi. XXII. 36	22.1	+.013	.....	+.0034	+.0043	.....	+.0037	33 Piscium . .	24.0	+.03	+.053	+.122	+.107	+.038	+.077
δ Aquarii . .	22.8	-.007	-.0037	-.0025	-.0039	-.0036	-.0036								
59 Pegasi . .	23.1	+.003	+.0003	-.0016	+.0003	+.0004	.....								
ψ^3 Aquarii . .	23.2	-.002	+.0020	+.0042	+.0037	+.0012	.....								
i^1 Aquarii . .	23.6	+.008	+.0015	+.0022	+.0011	+.0016	.....								

ERRORS OF OBSERVATION.

The errors which exist in the present series of observations may be classified as follows:—

(a) Personal errors which are inherent in the observations, and which vary with the conditions under which they are made. Errors of this class vary in magnitude with different observers; but the magnitude should remain nearly constant with the same observer, and should fall within the limits assigned to the best class of observations.

(b) Errors which are due to the use of slightly erroneous instrumental constants in the reduction of the observations. These errors are analogous to the personal errors of the observer, but they are not strictly of a similar kind. In the right ascension constants, they may vary with the combination of the equatorial and polar stars adopted, and especially with the declinations of the polar stars chosen. In the case of the declination constants, they may vary with the method employed to determine the equator-point corrections.

(c) Errors of reduction. One can hardly say that there is entire freedom from errors of this class in a work involving so many distinct and diverse numerical operations; but great care has been taken in this respect, and it may be asserted with some confidence that those which still remain are small in magnitude and few in number. Such as arise from a combination of the separate parts of the reductions are for the most part eliminated from the final results.

These errors may all be classed under the general head of *accidental errors*. Two tests are applied in estimating their magnitude.

First. The probable error of a single observation. The following are the mean values of this function, arranged in the order of declination, excluding only those stars of which less than five observations were made. Those which pertain to the right ascension are reduced to the equator.

Limits in δ	. . .	{	$\overset{\circ}{-40}$	$\overset{\circ}{-20}$	$\overset{\circ}{+0}$	$\overset{\circ}{+0}$	$\overset{\circ}{+10}$	$\overset{\circ}{+20}$	$\overset{\circ}{+30}$	$\overset{\circ}{+40}$	$\overset{\circ}{+50}$	$\overset{\circ}{+60}$	$\overset{\circ}{+70}$	$\overset{\circ}{+80}$	$\overset{\circ}{+90}$
		}	$\overset{\circ}{-20}$	$\overset{\circ}{-10}$	$\overset{\circ}{+0}$	$\overset{\circ}{+10}$	$\overset{\circ}{+20}$	$\overset{\circ}{+30}$	$\overset{\circ}{+40}$	$\overset{\circ}{+50}$	$\overset{\circ}{+60}$	$\overset{\circ}{+70}$	$\overset{\circ}{+80}$	$\overset{\circ}{+90}$	$\overset{\circ}{+130}$
Probable error in R.A.			$\overset{s}{+.035}$	$\overset{s}{+.033}$	$\overset{s}{+.030}$	$\overset{s}{+.026}$	$\overset{s}{+.025}$	$\overset{s}{+.025}$	$\overset{s}{+.022}$	$\overset{s}{+.023}$	$\overset{s}{+.022}$	$\overset{s}{+.019}$	$\overset{s}{+.019}$	$\overset{s}{+.016}$	$\overset{s}{+.022}$
Probable error in δ			$\overset{''}{+1.02}$	$\overset{''}{+.79}$	$\overset{''}{+.68}$	$\overset{''}{+.59}$	$\overset{''}{+.62}$	$\overset{''}{+.57}$	$\overset{''}{+.48}$	$\overset{''}{+.53}$	$\overset{''}{+.52}$	$\overset{''}{+.55}$	$\overset{''}{+.56}$	$\overset{''}{+.65}$	$\overset{''}{+1.05}$

The average value of the probable error of a single observation in right ascension is $\pm .024$ and in declination is $\pm 0.''66$, two microscopes being read. A recent investigation shows that the probable error of a single declination from four microscopes is not far from $\pm 0.''39$, at the distance of 45° from the zenith.

Second. The comparison of the coördinates of the stars of the secondary catalogue with the mean values derived from the observations made between 1866 and 1873. All the systematic corrections were first applied, and the comparison was then made with a mean value from which the observations of Harvard College were excluded. The deviations thus found will slightly exceed those derived from the comparison of the observations *inter se*, since they involve the errors due to at least two observers. The mean deviations in right ascension and in declination, together with the probable errors of a single deviation in each group, are given in Table XIV.

TABLE XIV.

IN ORDER OF RIGHT ASCENSION.						IN ORDER OF DECLINATION.					
Limiting hours of R. A.	No. Stars.	Mean deviations.		Prob. error of single deviation.		Mean δ	No. Stars.	Mean deviations.		Prob. error of single deviation.	
		$\Delta\alpha$	$\Delta\delta$	$\Delta\alpha$	$\Delta\delta$			$\Delta\alpha$	$\Delta\delta$		
h h		s	$''$	s	$''$	$^{\circ}$		s	$''$	s	$''$
0 . . . 3	11	— .026	+ 0.29	$\pm$.040	$\pm$ 0.53	— 33.2	13	— .003	+ 0.07	$\pm$.067	$\pm$ 0.99
3 . . . 6	10	— .024	— 0.10	$\pm$.036	$\pm$ 0.75	— 25.4	32	— .006	+ 0.41	$\pm$.033	$\pm$ 0.73
6 . . . 9	14	— .020	+ 0.45	$\pm$.033	$\pm$ 0.59	— 15.6	33	— .024	+ 0.47	$\pm$.030	$\pm$ 0.66
9 . . . 12	17	+ .024	+ 0.50	$\pm$.038	$\pm$ 0.60	— 7.3	14	— .017	+ 0.22	$\pm$.034	$\pm$ 0.88
12 . . . 15	20	— .038	+ 0.17	$\pm$.030	$\pm$ 0.82	+ 3.7	5	+ .020	— 0.40	$\pm$.037	$\pm$ 0.60
15 . . . 18	18	+ .010	+ 0.56	$\pm$.032	$\pm$ 0.65	+ 15.5	15	+ .000	+ 0.50	$\pm$.038	$\pm$ 0.75
18 . . . 21	24	— .007	+ 0.62	$\pm$.031	$\pm$ 0.78	+ 26.0	11	— .023	+ 0.33	$\pm$.032	$\pm$ 0.65
21 . . . 24	26	— .011	— 0.13	$\pm$.025	$\pm$ 0.76	+ 36.2	10	— .011	— 0.01	$\pm$.018	$\pm$ 0.56
.....	.....	.....	.....	.....	.....	+ 58.2	7	+ .010	— 0.13	$\pm$.028	$\pm$ 0.60
MEANS .	.....	s	$''$	s	$''$			s	$''$	s	$''$
		— .011	+ 0.30	$\pm$.033	$\pm$ 0.69			— .006	+ 0.17	$\pm$.035	$\pm$ 0.71

Constant Errors. Errors of this class include not only such as are common to the entire system of observations, but also those which belong to any given point in the arc either of right ascension or of declination. In general, they are systematic in their character, and they pertain to the instrument rather than to the observer.

Reference has been made in the preface, to the deviation of the present system of right ascensions of southern stars from the observations of 1860 and 1864, brought forward to 1872 and designated as α_0 . It was there stated that the maximum deviation as shown by the provisional reductions amounted to about 0.^s10. It will appear from the following table that the differences in question are very well defined. In right ascension, the correction for equinox only has been applied. No corrections have been applied to the declinations; hence the differences should show the deviations due to the different systems of refractions employed. The stars selected extend from -10° to -37° south declination.

TABLE XV.

MEANS OF OBSERVATIONS FOR 1860-1864 MINUS THOSE OF HARVARD COLLEGE FOR 1872.

Limit in R.A.	No. of Stars.	$\Delta\alpha$	$\Delta\delta$	Limit in R.A.	No. of Stars.	$\Delta\alpha$	$\Delta\delta$	Limit in δ .	No. of Stars.	$\Delta\alpha$	$\Delta\delta$
$h.$	$h.$	$s.$	$''$	$h.$	$h.$	$s.$	$''$	$^\circ$	$^\circ$	$s.$	$''$
0 — 3	11	— .042	— 0.27	12 — 15	15	— .021	— 0.13	— 40 — 30	54	— .029	+ 0.74
3 — 6	13	— .043	+ 0.25	15 — 18	21	— .018	+ 0.55	— 30 — 20	41	— .030	+ 0.46
6 — 9	17	+ .013	+ 0.04	18 — 21	17	— .063	— 0.28	— 20 — 10	30	— .043	— 0.24
9 — 12	17	+ .042	+ 0.70	21 — 24	14	— .075	+ 0.23				

In order to ascertain the effect of the reversal of the instrument upon these errors, the means were taken for 6 hours of right ascension preceding, and for 6 hours following, giving:

	No. stars.	$\Delta \alpha$	No. stars.	$\Delta \delta$
Before reversal	36	$-\overset{s}{.030}$	31	$+\overset{''}{0.33}$
After reversal	41	$-\overset{s}{.079}$	31	$+\overset{''}{0.70}$

While these results seem to indicate a decided increase of the deviation in right ascension after reversal, an examination of the individual values shows that there is no abrupt change in the region in which it might be expected. The maximum deviation seems to occur in the region of 20 hours. On the other hand, there is a strong preponderance of positive residuals in declination between 9^h and 24^h , between the limits of -10° and -20° , to a less degree for the same limits between -20° and -30° , while the plus and minus signs are pretty evenly distributed throughout the whole arc of right ascension between the limits of -30° and -40° .

The second test which will be applied for the detection of constant errors is the comparison of the mean places of polar stars observed at opposite culminations. Neglecting 9 Camelopardi and 1 H. Draconis, which show abnormal deviations in declination by nearly the same amount, but in opposite directions, this comparison gives the following results:—

UPPER CULMINATION MINUS LOWER CULMINATION.

No. of stars.	30	No. of stars.	24
$\Delta \alpha \cos \delta$	$+\overset{s}{.011}$	$\Delta \delta$	$-\overset{''}{0.19}$
Prob. error of single diff.	$\pm \overset{s}{.019}$	Prob. error of single diff.	$\pm \overset{''}{0.41}$

The third test which will be applied is the comparison of the Harvard College observations with the following:—

- (a) The fundamental positions of the primary catalogue.
- (b) The observations by Argelander of the list of stars given by him in the *Astronomische Nachrichten*, No. 1719, and selected by him for the express purpose of investigating the personal deviations between different observers.
- (c) The observations of the same list by Engelmann found in the *Nachrichten*, No. 1748.
- (d) The Pulkova observations of the Zusatz-Sterne which are found in the primary catalogue.
- (e) The results in declination for 1870.0 given by Bruhns from a discussion of the Greenwich, Leiden, and Leipsic observations. These comparisons are found in Table XV.

TABLE XVI.

DEVIATIONS $\Delta\alpha$ AND $\Delta\delta$ ARRANGED IN THE ORDER OF RIGHT ASCENSION.

Limits in R. A.	GESELLSCHAFT MINUS HARVARD COLLEGE.						ARGELANDER MINUS HARVARD COLLEGE.					
	$\Delta\alpha$	Mean δ	No. Stars.	$\Delta\delta$	Mean δ	No. Stars.	$\Delta\alpha$	Mean δ	No. Stars.	$\Delta\delta$	Mean δ	No. Stars.
h h	s			"	$^{\circ}$		s	$^{\circ}$		"	$^{\circ}$	
0 3	+ .003	.....	35	- 0.13	+ 35.1	43	+ .027	+ 14.6	18	+ 0.39	+ 20.9	20
3 6	- .008	.....	40	- 0.04	+ 29.0	47	+ .049	+ 20.6	15	+ 0.68	+ 21.9	17
6 9	- .011	.....	26	- 0.07	+ 37.4	31	+ .013	+ 16.1	11	- 0.16	+ 21.7	14
9 12	+ .001	.....	28	+ 0.11	+ 36.6	38	+ .028	+ 13.6	15	+ 1.05	+ 18.0	15
12 15	- .012	.....	23	- 0.24	+ 36.5	30	- .009	+ 12.1	15	+ 0.49	+ 19.4	17
15 18	- .008	.....	31	+ 0.01	+ 40.7	46	+ .057	+ 15.8	9	+ 0.54	+ 38.7	16
18 21	+ .009	.....	28	+ 0.09	+ 36.9	42	+ .002	+ 7.6	9	+ 1.03	+ 20.0	11
21 24	- .014	.....	32	- 0.27	+ 31.8	40	+ .000	+ 6.3	15	+ 0.13	+ 19.8	19

Limits in R. A.	ENGELMANN MINUS HARVARD COLLEGE.						PULKOVA MINUS HARVARD COLLEGE.					
	$\Delta\alpha$	Mean δ	No. Stars.	$\Delta\delta$	Mean δ	No. Stars.	$\Delta\alpha$	Mean δ	No. Stars.	$\Delta\delta$	Mean δ	No. Stars.
h h	s			"	$^{\circ}$		s	$^{\circ}$		"	$^{\circ}$	
0 3	+ .001	+ 14.6	18	- 0.01	+ 20.9	20	+ .010	+ 20.5	7	+ 0.15	+ 33.6	11
3 6	+ .032	+ 20.6	15	+ 0.70	+ 21.9	17	+ .011	+ 42.8	7	+ 0.16	+ 44.2	11
6 9	+ .032	+ 16.1	11	+ 0.50	+ 21.7	14	+ .014	+ 34.0	7	+ 0.37	+ 49.8	12
9 12	+ .053	+ 13.6	15	+ 1.25	+ 18.0	15	+ .006	+ 17.7	6	+ 0.08	+ 36.9	9
12 15	+ .017	+ 12.1	15	+ 0.39	+ 19.4	17	+ .018	+ 32.4	3	+ 0.24	+ 36.9	5
15 18	+ .055	+ 15.8	9	- 0.04	+ 38.7	16	+ .001	+ 34.9	6	+ 0.06	+ 50.4	10
18 21	+ .008	+ 7.6	9	+ 0.86	+ 20.0	11	- .018	+ 35.4	4	- 0.10	+ 47.4	8
21 24	- .028	+ 6.3	15	+ 0.17	+ 19.8	19	- .005	+ 31.0	9	+ 0.17	+ 40.2	12

DEVIATIONS $\Delta\alpha$ AND $\Delta\delta$ ARRANGED IN THE ORDER OF DECLINATION.

	ARGELANDER MINUS HARVARD COLLEGE.							ENGELMANN MINUS HARVARD COLLEGE.						
Limits in δ	$\Delta\alpha$	$\Delta\delta$	Mean R. A.	Mean δ	No. Stars	Prob. error of single $\Delta\alpha \cos. \delta$	Prob. error of single $\Delta\delta$	$\Delta\alpha$	$\Delta\delta$	Mean R. A.	Mean δ	No. Stars.	Prob. error of single $\Delta\alpha \cos. \delta$	Prob. error of single $\Delta\delta$
$^{\circ}$ $^{\circ}$	s	"	h	$^{\circ}$		s	"	s	"	h	$^{\circ}$		s	"
-40 -20	-.023	+0.57	14.1	-24.8	10	$\pm .043$	± 0.95	-.029	+0.74	14.1	-24.8	10	$\pm .031$	± 0.73
-20 -10	-.025	+1.06	10.1	-17.0	12	$\pm .043$	± 0.74	-.054	+0.79	10.1	-17.0	12	$\pm .038$	± 0.78
-10 + 0	+.060	+0.99	10.9	- 4.5	14	$\pm .025$	± 0.39	+.006	+1.09	10.9	- 4.5	14	$\pm .039$	± 0.61
+ 0 + 10	+.032	+0.16	12.8	+ 4.6	16	$\pm .021$	± 0.67	+.011	+0.22	12.8	+ 4.6	16	$\pm .025$	± 0.76
+ 10 + 20	+.039	+1.16	10.5	+15.3	11	$\pm .026$	± 0.40	+.034	+1.36	10.5	+15.3	11	$\pm .018$	± 0.39
+ 20 + 30	+.006	+0.94	12.5	+24.5	13	$\pm .033$	± 0.36	+.022	+1.04	12.5	+24.5	13	$\pm .036$	± 0.46
+ 30 + 40	+.027	+0.74	14.4	+35.0	10	$\pm .033$	± 0.38	+.036	+0.56	14.4	+35.0	10	$\pm .014$	± 0.29
+ 40 + 50	+.043	+0.89	8.0	+45.8	11	$\pm .014$	± 0.53	+.068	+0.31	8.0	+45.8	11	$\pm .027$	± 0.49
+ 50 + 60	+.008	+0.43	10.5	+54.4	11	$\pm .031$	± 0.42	+.118	-0.33	10.5	+54.4	11	$\pm .036$	± 0.45
+ 60 + 70	-.001	-0.27	13.4	+64.4	11	$\pm .017$	± 0.50	+.111	-0.39	13.4	+64.4	11	$\pm .022$	± 0.70
+ 70 + 90	-.048	-0.69	14.2	+76.5	13	$\pm .019$	± 0.41	+.044	-0.81	14.2	+76.5	13	$\pm .025$	± 0.47

	GESELLSCHAFT MINUS HARVARD COLLEGE.					PULKOVA MINUS HARVARD COLLEGE.					BRUHNS MINUS HARVARD COLLEGE.						
Limits in δ	$\Delta\alpha$	Mean R. A.	Mean δ	No. Stars.	Prob. error of single $\Delta\alpha \cos. \delta$	$\Delta\alpha$	$\Delta\delta$	Mean R. A.	Mean δ	No. Stars.	Prob. error of single $\Delta\alpha \cos. \delta$	Prob. error of single $\Delta\delta$	$\Delta\delta$	Mean R. A.	Mean δ	No. Stars.	Prob. error of single $\Delta\delta$
$^{\circ}$ $^{\circ}$	s	h	$^{\circ}$		s	s	"	h	$^{\circ}$		s	"	"	h	$^{\circ}$		"
-10 + 0	+.015	10.6	- 4.7	32	$\pm .024$	+.016	-1.09	9.9	- 5.0	5	$\pm .025$	± 0.79	+.029	12.7	- 4.8	11	± 0.57
+ 0 + 10	+.021	11.9	+ 5.7	37	$\pm .027$	+.007	+1.13	6.2	+ 6.4	2	$\pm .006$	± 0.44	+.007	12.5	+ 6.4	16	± 0.61
+ 10 + 20	+.010	12.5	+15.1	41	$\pm .023$	+.006	-0.28	13.1	+15.3	8	$\pm .028$	± 0.28	+.091	12.5	+15.2	15	± 0.55
+ 20 + 30	-.010	12.3	+25.1	39	$\pm .021$	+.015	+0.03	14.9	+23.9	9	$\pm .021$	± 0.35	+0.62	11.0	+25.8	12	± 0.44
+ 30 + 40	+.000	10.8	+35.3	35	$\pm .037$	+.004	-0.78	7.3	+34.7	7	$\pm .014$	± 0.31	+0.41	13.6	+36.3	14	± 0.38
+ 40 + 50	-.002	11.0	+44.9	33	$\pm .029$	+.009	-0.40	13.3	+44.4	7	$\pm .014$	± 0.74	+0.46	10.2	+45.6	17	± 0.50
+ 50 + 60	-.009	12.5	+55.5	23	$\pm .032$	-.001	+0.46	13.0	+55.8	10	$\pm .021$	± 0.43	+0.05	12.7	+55.0	14	± 0.42
+ 60 + 70	+.004	11.2	+64.4	22	$\pm .026$	-.027	+0.03	17.0	+65.9	6	$\pm .017$	± 0.66	+0.04	12.5	+63.5	7	± 0.35
+ 70 + 90	+.029	12.2	+77.0	28	$\pm .030$	-.074	-0.08	12.9	+77.7	23	$\pm .017$	± 0.43	-0.03	19.2	+79.9	6	± 0.30

The following conclusions are drawn from Tables XIV., XV., and XVI.:—

(a) Leaving out of consideration the systematic errors and taking into account only the errors due to the whole system of observations, the following relations appear to be established:—

	In order of Right Ascension.		In order of Declination.	
	$\Delta\alpha$ s.	$\Delta\delta$ "	$\Delta\alpha$ s.	$\Delta\delta$ "
Gesellschaft minus Harvard College	−0.005	−0.07	+0.006	−0.03
Argelander minus Harvard College	+0.021	+0.52	+0.011	+0.54
Engelmann minus Harvard College	+0.021	+0.48	+0.033	+0.42
Pulkova minus Harvard College	+0.005	+0.14	−0.005	+0.15
Bruhns minus Harvard College		+0.31		+0.31

It therefore appears that the present series of right ascensions requires a slight positive correction for equinox, while all the declinations required to be increased by about 0."3. It will be noticed that the values of $\Delta\alpha$ and $\Delta\delta$ in corresponding columns do not precisely agree, owing to the fact that in arranging the deviations in the order of right ascension, the comparison was limited to stars below 60° north declination. It is to be noticed also that the residuals $\Delta\alpha$ are not reduced to the equator, but that they represent actual deviations, no corrections whatever having been applied.

(b) The following classes of errors must be reserved for future investigation, since there is not sufficient evidence to indicate to what source they should be referred:—

(1) The apparent periodicity in right ascension peculiar to stars having large south declinations. If the present values of this coördinate can be relied upon, the right ascensions observed near the epoch of 1860 are too large by .^s04 in the region of 9 hours, and too small by .^s07 in the region of 21 hours.

(2) The apparent break in the continuity of the present system of declinations between the limits of 40° and 60° declination.

(3) The rapid change in the direction of the declination curve for the later observations of extreme south stars.

(4) A small local error in this system of observations in the region of the equator, probably due to a local disturbance in the figure of the pivots.

(c) The influence of the periodic errors which exist in the assumed standard, upon this system of observations.

It is quite certain that periodic errors in right ascension are to be referred to one of three causes; viz., to the physical conditions under which the observations are made, to an unconscious change in the personal equation of the observer, or to the form of the pivots of the instrument with which the observations are made. But whatever may be the origin of the errors in question, it is certain that they have been largely perpetuated in differential observations through the unequal distribution of the standard stars in declination. In other words, systematic errors in right ascension are perpetuated through the systematic errors of the same coördinate which depend on the declination. We have a conspicuous example of this in the influence of Pond's first catalogue of 720 stars upon subsequent observations. His right ascensions of extreme south stars observed between 1816 and 1821 are too small by 0.^s20, and of stars in the region of 50° north declination they are too large by 0.^s04. Hence all subsequent observations which depend on his positions are erroneous in proportion to their dependence on southern stars.

Care has been taken to avoid these errors in the observations of this volume, but it is impossible to wholly eliminate such as are inherent in the standard system.

TABLE XVII.

TABULAR VALUES OF THE INSTRUMENTAL CONSTANTS

EMPLOYED IN THE

REDUCTION OF THE MERIDIAN OBSERVATIONS,

FROM

APRIL 26, 1871, TO MAY 22, 1872.

1871. Mean Day and Sidereal Hour.			Observer.	Adopted value of $\Delta t + m$.	No. of Observations.	Adopted hourly rate of the Standard Clock.	Adopted value of n .	No. of Observations.	Micrometer reading for Zero of Collimation.	Equator-Point Correction.	No. of Observations.	Sidereal Hour.	Barometer.	Att. Ther.	Ext. Ther.	Sidereal Hour.	Ext. Ther.
<i>d.</i>	<i>h.</i>			<i>s.</i>		<i>s.</i>	<i>s.</i>		<i>r.</i>	<i>"</i>		<i>h.</i>	<i>in.</i>	<i>°</i>	<i>°</i>	<i>h.</i>	<i>°</i>
April	26	12.3	R.	+3.31	3	+0.002	-0.040	1	35.607	- 7.73	3	12.0	30.30	65.0	41.6	....	....
	29	12.2	R.	+3.42	1	-0.003	-0.089	1	35.630	- 6.30	2	12.0	29.72	67.0	46.2	....	....
	30	12.3	R.	+3.29	2	-0.004	-0.090	1	35.630	- 7.45	2	12.0	29.72	66.5	44.1	....	....
May	1	12.7	R.	+3.21	6	-0.005	-0.105	1	35.615	- 8.92	5	12.0	29.93	68.0	48.3	....	....
	2	12.3	M.	+3.06	6	-0.003	-0.149	2	35.618	- 7.07	6	12.0	29.75	60.8	49.0	....	....
	9	13.2	R.	+3.02	8	-0.005	-0.106	1	.....	- 9.79	7	12.0	29.99	73.5	47.3	....	....
	10	12.8	M.	+2.92	8	-0.001	-0.109	1	35.626	-14.08	8	12.0	29.97	66.0	42.0	....	....
	11	12.7	R.	+2.99	6	-0.002	-0.132	2	35.626	-15.27	6	12.5	29.95	63.0	50.0	....	....
	14	13.3	M.	+2.43	5	-0.006	-0.096	1	35.630	-15.48	5	12.0	29.87	66.1	50.2	13.0	47.8
June	6	13.2	R.	-0.11	4	-0.009	-0.391	1	43.596	-24.73	3	13.0	29.93	67.8	69.1	....	....
	12	14.0	R.	-1.42	2	-0.008	-0.420	1	42.351	-100.40	1	13.0	29.54	63.5	59.7	15.0	58.1
	14	14.0	M.	-1.71	5	-0.006	-0.399	1	42.340	-100.48	5	13.0	29.99	65.2	58.6	16.0	58.4
	17	14.0	R.	-2.13	3	-0.007	-0.455	1	42.340	-98.92	4	14.0	30.17	62.6	58.8	16.0	55.8
	19	14.5	R.	-2.50	6	-0.004	-0.408	1	39.966	+62.05	6	14.0	29.88	62.1	59.0	15.0	57.0
	21	14.2	M.	-2.50	9	-0.002	-0.481	2	44.096	+49.67	8	14.0	30.10	64.4	54.1	16.5	54.4
	25	14.3	R.	-2.84	10	-0.003	-0.421	4	44.104	+49.81	10	14.0	30.10	65.9	62.5	16.0	60.9
	26	14.7	M.	-2.92	6	-0.003	-0.423	3	44.145	+48.61	7	14.0	29.97	72.3	73.7	16.0	67.3
	27	14.3	R.	-3.02	6	-0.007	-0.398	5	44.132	+48.41	8	15.0	29.85	77.5	65.1	....	....
	29	14.0	M.	-3.55	2	-0.007	-0.408	1	.....	+49.10	1	14.0	29.93	71.0	67.4	17.0	60.0
	30	14.7	M.	-3.65	6	-0.006	-0.400	2	44.132	+49.02	4	15.0	30.16	67.8	62.8	17.0	57.0
July	1	14.7	M.	-3.83	5	-0.007	-0.410	3	.....	+49.97	6	14.0	30.25	66.2	57.8	17.0	57.8
	3	14.7	M.	-4.15	6	-0.015	-0.422	2	.....	+48.69	7	14.0	30.04	73.1	71.1	17.5	68.9

1871. Mean Day and Sidereal Hour.			Observer.	Adopted value of $\Delta t + m$.	No. of Observations.	Adopted hourly rate of the Standard Clock.	Adopted value of n .	No. of Observations.	Micrometer reading for Zero of Collimation.	Equator-Point Correction.	No. of Observations.	Sidereal Hour.	Barometer.	Att. Ther.	Ext. Ther.	Sidereal Hour.	Ext. Ther.
<i>d.</i>	<i>h.</i>			<i>s.</i>		<i>s.</i>	<i>s.</i>		<i>r.</i>	<i>"</i>		<i>h.</i>	<i>in.</i>	<i>°</i>	<i>°</i>	<i>h.</i>	<i>°</i>
July	7	15.2	R.	— 6.36	6	— .023	— .500	2	44.147	+49.08	6	15.0	29.82	74.3	74.8	16.0	72.8
	8	15.3	R.	— 6.93	4	— .022	— .500	1	.....	+49.92	5	16.0	29.95	78.5	72.4	.....	.....
	9	15.7	M.	— 7.42	3	— .027	— .557	2	44.103	+47.25	2	16.0	29.74	87.5	79.6	.....	.....
	10	15.2	R.	— 8.20	4	— .026	— .500	2	.....	+47.80	5	16.0	29.86	73.2	68.6	.....	.....
	12	15.3	R.	— 9.14	6	— .020	— .535	2	.....	+49.09	7	15.0	29.97	78.0	79.5	17.5	74.2
	13	15.5	M.	— 9.62	10	— .019	— .612	3	.....	+48.92	14	16.5	30.07	77.0	72.2	.....	.....
	20	15.8	M.	— 12.69	11	— .015	— .477	2	.....	+47.52	12	16.0	29.88	68.2	64.1	.....	.....
	22	16.1	R.	— 13.30	5	— .007	— .512	1	.....	+47.22	6	16.0	30.03	62.1	62.4	17.0	60.4
	23	15.7	R.	— 13.37	14	— .004	— .501	2	.....	+48.06	16	15.0	30.14	63.4	60.7	17.0	59.7
	27	16.2	R.	— 13.92	5	— .008	— .525	2	.....	+48.31	7	16.0	30.03	73.6	72.0	17.0	70.0
Aug.	2	16.7	R.	— 15.39	14	— .008	— .508	2	.....	+47.27	15	16.5	30.12	73.0	76.1	19.0	72.0
	3	16.2	R.	— 15.52	12	— .009	— .519	3	.....	+45.73	11	16.5	29.97	80.0	80.0	19.0	77.4
	5	16.8	R.	— 16.27	8	— .015	— .573	3	46.302	+46.88	9	16.5	29.73	77.0	76.0	19.0	72.1
	6	16.7	R.	— 12.63	10	— .014	— .526	5	.....	+46.26	12	17.0	29.93	73.0	72.0	.....	.....
	9	17.2	R.	— 13.53	4	— .013	— .573	3	.....	+45.98	6	18.0	29.51	72.2	68.6	19.0	64.5
	10	16.7	M.	— 13.86	8	— .009	— .558	4	.....	+45.58	12	18.0	30.00	69.8	70.4	.....	.....
	11	16.8	M.	— 13.95	9	— .007	— .556	1	.....	+44.61	9	16.0	29.96	72.0	69.2	19.0	65.6
	13	16.8	R.	— 14.46	4	— .011	— .553	3	.....	+44.67	3	16.0	30.13	68.8	68.3	18.0	65.6
	17	18.0	M.	— 15.52	3	— .010	— .550	1	.....	+45.55	2	17.0	30.08	70.2	70.1	20.0	64.7
	18	18.5	M.	— 15.74	9	— .008	— .528	1	46.371	+44.93	3	17.0	29.88	71.9	67.8	20.0	62.2
	19	17.7	M.	— 15.86	2	— .008	— .500	2	.....	+48.10	1	18.0	30.06	67.5	61.0	20.0	57.4
	22	17.7	M.	— 16.69	3	— .010	— .450	3	46.371	+48.20	4	17.0	30.44	63.0	62.0	20.0	58.5
	28	19.7	R.	— 18.00	1	— .012	— .497	2	.....	+46.85	2	18.0	30.12	68.0	65.9	21.0	62.5
	31	17.8	M.	— 19.04	4	— .014	— .613	3	46.342	+47.52	4	18.0	30.08	68.0	66.2	20.0	61.9
Sept.	1	17.8	R.	— 19.38	3	— .013	— .622	2	.....	+49.97	3	18.0	30.25	66.0	58.0	20.0	56.9
	2	18.5	R.	— 19.67	6	— .011	— .459	2	.....	+47.56	5	18.0	30.17	68.7	66.4	21.0	62.6
	3	18.0	M.	— 19.92	5	— .011	— .556	4	46.330	+48.15	6	18.0	30.25	71.3	64.9	20.0	63.9
	6	18.3	R.	— 20.74	9	— .014	— .564	2	46.343	+47.63	8	18.0	29.93	74.4	70.0	20.0	68.0
	7	18.3	R.	— 21.17	9	— .012	— .547	3	.....	+47.87	9	18.0	30.04	64.3	72.0	20.0	58.4
	10	18.5	M.	— 21.63	5	— .007	— .449	3	.....	+48.10	4	20.0	30.18	65.0	60.7	.....	.....
	18	18.3	R.	— 23.17	8	— .007	— .041	1	46.291	+102.77	3	17.0	30.48	61.0	55.2	20.0	49.8
	21	18.7	R.	— 23.58	4	— .003	+ .011	1	46.287	+55.25	5	18.0	30.32	55.2	49.8	21.0	43.5
	23	19.2	M.	— 23.57	4	— .003	+ .040	1	.....	+78.21	11	18.0	29.76	62.0	58.4	20.0	58.4
	24	19.2	R.	— 23.73	9	— .007	+ .027	3	.....	+78.86	7	18.0	29.77	67.1	68.6	20.0	67.3

1871. Mean Day and Sidereal Hour.			Observer.	Adopted value of $\Delta t + m$.	No. of Observations.	Adopted hourly rate of the Standard Clock.	Adopted value of n .	No. of Observations.	Micrometer reading for Zero of Collimation.	Equator-Point Correction.	No. of Observations.	Sidereal Hour.	Barometer.	Att. Ther.	Ext. Ther.	Sidereal Hour.	Ext. Ther.
Sept.	d.	h.		s.		s.	s.		r.	"		h.	in.	°	°	h.	°
	25	19.2	R.	-23.95	7	-.009	+0.045	4	.....	+79.16	10	19.0	29.96	64.0	58.5	21.0	55.5
	27	20.7	M.	- 5.88	9	-.008	+0.112	2	.....	+76.78	8	20.0	29.75	61.0	53.1	22.0	50.3
	28	19.7	R.	- 6.07	5	-.004	+0.100	1	.....	+79.32	5	19.0	29.92	59.8	55.7	21.0	49.8
	30	21.2	M.	-37.11	6	-.000	+0.082	2	.....	+62.61	9	20.0	30.25	58.5	45.3	22.0	43.3
Oct.	3	22.7	R.	- 6.15	5	-.004	+0.057	2	.....	+61.57	3	21.0	29.75	60.0	57.6	24.0	57.6
	4	21.7	R.	- 6.36	21	-.007	+0.059	5	46.235	+61.76	27	19.0	29.90	62.0	58.2	23.0	54.5
	5	20.2	R.	- 6.44	11	-.005	+0.048	4	.....	+62.62	13	19.0	29.94	64.2	63.0	22.0	60.0
	8	19.8	R.	- 6.87	10	-.002	+0.065	5	.....	+62.21	14	19.0	30.37	58.5	52.2	22.0	49.5
	8	21.7	M.	- 6.97	10	-.002	+0.065	6	.....	+60.31	14	...	.....	...	...	.....	.....
	8	22.7	R.	- 6.91	10	-.002	+0.065	1	.....	+61.41	10	...	.....	...	...	.....	.....
	9	20.5	R.	- 6.82	6	-.002	+0.025	..	46.256	+62.87	6	20.0	30.20	67.3	63.5	23.0	55.5
	9	20.8	M.	- 6.93	6	-.002	+0.025	3	.....	+61.59	7	...	.....	...	...	.....	.....
	9	23.2	R.	- 6.89	4	-.002	+0.003	2	.....	+62.14	5	...	.....	...	...	.....	.....
	9	22.7	M.	- 6.98	5	-.002	+0.059	3	.....	+61.62	4	...	.....	...	...	.....	.....
	15	20.5	R.	- 7.48	5	-.006	+0.079	..	.....	+65.73	6	20.0	30.03	64.0	52.0	22.0	48.0
	16	19.7	R.	- 8.21	5	-.005	+0.079	2	46.254	+63.63	7	19.0	30.08	61.4	50.1	0.0	44.7
	16	22.0	M.	- 7.79	5	-.005	+0.079	2	.....	+61.01	13	...	.....	...	...	.....	.....
	16	23.5	M.	- 7.84	4	-.005	+0.079	3	.....	.....	..	...	.....	...	...	.....	.....
	16	20.5	R.	- 7.71	7	-.005	+0.079	1	.....	+62.69	9	...	.....	...	...	.....	.....
	21	20.0	R.	- 7.77	7	-.000	+0.133	2	46.240	+61.50	8	19.0	30.20	63.9	53.6	23.0	44.8
	22	19.7	R.	- 7.79	5	-.003	+0.147	2	.....	+63.08	6	...	.....	...	...	.....	.....
	22	21.5	M.	- 7.81	16	-.003	+0.114	4	.....	+62.54	18	...	.....	...	...	.....	.....
	23	20.5	R.	- 7.94	17	-.008	+0.100	4	46.295	+63.49	22	19.0	29.96	68.0	68.0	22.0	66.0
	29	22.0	M.	- 9.40	24	-.002	+0.119	5	.....	+61.51	28	20.0	30.09	61.9	46.0	0.0	39.9
	30	20.5	R.	- 9.29	9	+0.004	+0.200	3	.....	+62.41	9	...	.....	...	...	.....	.....
	31	22.2	R.	- 9.21	10	-.002	+0.180	4	.....	+62.08	13	22.0	30.13	63.0	53.6	23.0	51.8
Nov.	2	20.5	R.	- 9.51	14	-.004	+0.192	6	46.285	+62.34	20	19.0	29.93	64.0	43.3	22.0	38.3
	2	9.1	M.	- 9.65	4	-.004	+0.200	3	.....	+61.36	9	...	.....	...	...	.....	.....
	2	0.5	M.	- 9.65	2	-.003	+0.192	..	.....	+63.40	5	...	.....	...	...	.....	.....
	5	21.7	R.	- 9.58	10	+0.006	+0.200	3	.....	+62.73	12	20.0	29.97	63.0	31.7	22.0	27.5
	7	21.7	R.	- 8.95	17	+0.010	+0.240	5	46.219	+63.21	22	22.0	29.87	64.0	35.6	2.0	31.6
	9	22.0	R.	- 8.61	14	+0.008	+0.213	3	46.246	+63.04	16	21.0	29.92	68.2	33.8	2.0	31.6
	12	22.7	M.	- 8.00	7	+0.016	+0.220	1	.....	+63.78	6	22.0	30.34	71.0	29.7	23.0	27.7
	13	22.7	R.	- 7.39	13	+0.019	+0.220	2	.....	+63.10	12	22.0	30.34	68.9	33.9	0.0	31.8

1871-72. Mean Day and Sidereal Hour.			Observer.	Adopted value of $\Delta t + m$.	No. of Observations.	Adopted hourly rate of the Standard Clock.	Adopted value of n .	No. of Observations.	Micrometer reading for Zero of Collimation.	Equator-Point Correction.	No. of Observations.	Sidereal Hour.	Barometer.	Att. Ther.	Ext. Ther.	Sidereal Hour.	Ext. Ther.
<i>d.</i>	<i>h.</i>			<i>s.</i>		<i>s.</i>	<i>s.</i>		<i>r.</i>	<i>"</i>		<i>h.</i>	<i>in.</i>	<i>°</i>	<i>°</i>	<i>h.</i>	<i>°</i>
Nov.	19	22.0	R.	— 5.50	8	+ .013	+ .350	3	46.229	+63.05	14	22.0	30.43	67.0	36.8	1.0	33.7
	22	22.5	R.	— 4.64	10	+ .010	+ .253	3	.....	+62.56	11	22.0	29.66	65.2	37.1	1.0	35.8
	23	22.8	R.	— 4.48	12	+ .012	+ .180	5	46.250	+61.64	12	22.0	30.30	64.3	26.7	1.0	25.8
	25	23.0	R.	— 3.69	12	+ .015	+ .214	4	.....	+62.92	13	23.0	30.24	64.0	34.9	2.0	33.8
	28	22.7	R.	— 2.70	12	+ .018	+ .280	1	46.230	+63.69	16	22.0	29.95	64.8	15.0	0.0	14.2
	29	0.7	M.	— 2.13	6	+ .026	+ .290	3	.....	+63.52	9	0.0	29.78	63.7	16.6	2.0	15.8
Dec.	1	1.8	M.	— 0.69	12	+ .031	+ .385	2	.....	+63.89	15	1.0	29.98	63.7	19.0	3.0	16.0
	2	1.7	M.	+ 0.09	6	+ .028	+ .373	1	.....	+64.12	6	1.0	30.27	66.8	18.6	2.0	16.7
	5	23.3	R.	+ 1.68	13	+ .029	+ .373	2	.....	+62.63	11	22.0	29.71	67.0	19.2	2.0	16.3
	6	22.8	R.	+ 2.49	13	+ .030	+ .450	3	.....	+62.31	14	22.0	29.95	66.2	18.7	2.0	16.0
	6	1.5	M.	+ 2.49	7	+ .030	+ .370	3	.....	+62.51	9	...	.....	...	...	.....	.....
	9	2.2	R.	+ 4.54	11	+ .029	+ .356	3	46.184	+62.24	19	0.0	30.22	70.0	20.0	3.0	16.9
	11	1.7	R.	+ 5.99	9	+ .030	+ .371	6	.....	+61.67	15	0.0	29.82	55.8	30.2	3.0	30.2
	12	0.0	R.	+ 6.64	12	+ .031	+ .387	3	46.178	+62.36	14	23.0	30.16	70.0	26.4	2.0	23.5
	17	23.3	R.	+10.62	12	+ .032	+ .376	5	....	+62.70	16	23.0	30.22	65.9	36.1	3.0	32.1
	17	2.5	M.	+10.60	13	+ .032	+ .400	2	.....	+61.58	15	...	.....	...	...	...	.....
	18	3.0	R.	+11.48	7	+ .028	+ .350	3	.....	+61.98	12	2.0	29.89	64.9	34.0	3.0	33.0
	20	0.0	R.	+12.45	15	+ .033	+ .328	5	46.185	+63.08	17	23.0	29.60	62.0	14.0	4.0	4.0
	24	0.7	M.	+16.73	4	+ .035	+ .330	1	46.209	.....	..	0.0	30.26	64.3	36.8	3.0	34.0
	27	1.3	R.	+18.62	4	+ .033	+ .350	2	46.186	+62.88	15	1.0	30.07	63.0	25.2	4.0	21.6
	27	3.7	R.	+18.66	..	+0.33	+ .350	2	.....	.....	..	..	.....	...	...	...	.....
	28	1.5	R.	+19.59	22	+ .039	+ .458	12	46.147	+62.93	22	0.0	30.50	69.9	16.2	3.0	15.2
	29	2.7	M.	+20.54	7	+ .039	+ .444	4	.....	+62.38	14	2.0	30.13	66.9	22.8	3.0	22.4
Jan	1	2.6	R.	+23.46	17	+ .041	+ .398	5	.....	+63.09	21	2.0	30.50	72.0	34.3	3.5	32.8
	2	0.8	R.	+24.39	4	+ .037	+ .380	2	46.154	+63.51	6	0.0	30.57	62.9	21.2	1.0	20.0
	5	3.2	M.	+26.74	15	+ .028	+ .392	4	.....	+61.75	17	2.0	29.80	71.2	35.0	4.0	32.6
	6	3.3	M.	+27.30	15	+ .029	+ .375	4	.....	+61.73	19	2.0	29.72	70.1	26.0	4.0	24.8
	8	1.5	R.	+28.89	4	+ .034	+ .420	1	46.142	+64.06	11	2.0	30.30	65.9	21.6	4.0	19.6
	8	4.0	R.	+29.04	7	+ .034	+ .420	..	.....	.....	..	..	.....	...	...	...	.....
	9	1.8	R.	+29.71	9	+ .036	+ .430	4	.....	+63.10	12	2.0	30.05	66.1	29.8	4.0	29.1
	10	2.9	R.	+30.67	4	+ .038	+ .394	3	46.181	+62.76	19	3.0	30.12	63.0	33.0	5.0	31.4
	10	4.8	R.	+30.73	11	+ .038	+ .394	2	.....	.....	..	..	.....	...	...	...	.....
	12	4.5	M.	+ 2.71	10	+ .009	+ .405	2	.....	+61.78	11	4.0	29.85	71.0	36.4	5.0	35.8
	13	3.5	M.	+ 2.92	11	+ .005	+ .387	3	.....	+60.73	14	3.0	29.76	69.0	38.0	4.0	36.8

1872. Mean Day and Sidereal Hour.			Observer.	Adopted value of $\Delta t + m$.	No. of Observations.	Adopted hourly rate of the Standard Clock.	Adopted value of n .	No. of Observations.	Micrometer reading for zero of Collimation.	Equator-Point Correction.	No. of Observations.	Sidereal Hour.	Barometer.	Att. Ther.	Ext. Ther.	Sidereal Hour.	Ext. Ther.
d.	h.			s.		s.	s.		r.	"		h.	in.	°	'	h.	°
Jan.	14	2.7	M.	+ 2.95	5	+ .002	+ .387	3	.....	+ 61.23	7	2.0	30.07	64.8	13.3	3.0	10.5
	15	3.8	M.	+ 3.02	13	+ .009	+ .350	3	.....	+ 63.34	14	3.0	30.10	70.0	16.8	5.0	15.7
	21	2.1	M.	+ 5.29	4	+ .010	+ .376	5	.....	+ 55.58	16	2.0	29.83	71.0	31.6	5.0	30.4
	23	3.1	R.	+ 5.40	5	+ .002	+ .360	1	.....	+ 57.25	5	3.0	29.67	67.7	27.5	5.0	26.5
	24	3.1	R.	+ 5.48	9	+ .004	+ .343	4	.....	+ 58.20	11	3.0	29.73	58.0	19.8	5.0	18.6
	30	2.8	R.	+ 6.39	8	+ .014	+ .437	3	41.653	+ 41.68	12	2.0	30.20	66.0	4.0	6.0	8.2
	30	5.0	M.	+ 6.34	15	+ .014	+ .477	3	.....	+ 43.15	18	..	.....	...	..	...	...
	30	5.9	R.	+ 6.39	5	+ .014	+ .477	3	.....	+ 41.68	12	..	.....	...	..	...	...
	31	2.1	R.	+ 6.87	4	+ .022	+ .513	3	.....	+ 42.06	11	2.0	30.10	63.0	17.2	6.0	9.7
	31	5.5	R.	+ 6.91	4	+ .022	+ .513	..	.....	.....	..	..	.....	...	..	...	...
Feb.	1	3.9	R.	+ 7.44	8	+ .023	+ .505	4	.....	+ 42.78	13	2.0	30.33	68.2	15.7	4.0	11.4
	2	5.9	M.	+ 8.04	4	+ .018	+ .522	4	.....	+ 41.76	7	6.0	30.55	67.0	10.8	7.0	10.5
	4	3.9	M.	+ 8.73	15	+ .016	+ .445	2	41.723	+ 42.34	18	3.0	29.95	68.0	25.9	6.0	21.9
	5	5.8	R.	+ 9.17	9	+ .016	+ .460	3	.....	+ 42.19	9	6.0	30.22	66.9	32.7	7.0	31.7
	7	2.3	R.	+ 9.79	6	+ .017	+ .387	1	41.737	+ 41.71	16	2.0	30.58	65.2	24.1	6.0	18.0
	7	5.2	R.	+ 9.86	10	+ .017	+ .387	2	.....	.....	..	..	.....	...	..	...	...
	8	5.6	R.	+ 10.22	15	+ .014	+ .352	6	.....	+ 42.81	17	5.0	30.35	62.2	24.0	7.0	22.7
	12	4.9	R.	+ 11.18	10	+ .006	+ .338	4	41.767	+ 42.37	12	3.0	30.07	72.0	39.9	7.0	37.9
	14	3.6	R.	+ 11.32	12	+ .002	+ .290	6	.....	+ 41.76	17	3.0	29.47	63.8	24.2	5.0	20.7
	15	5.2	R.	+ 11.31	6	+ .005	+ .400	1	.....	+ 43.73	6	5.0	29.56	63.2	20.8	6.0	18.0
	18	4.8	M.	+ 12.01	11	+ .014	+ .417	3	41.725	+ 45.03	13	4.0	30.05	62.0	30.0	6.0	29.0
	19	7.3	M.	+ 12.49	7	+ .013	+ .430	..	.....	+ 45.21	8	7.0	30.14	69.0	29.0	8.0	27.0
	22	4.6	R.	+ 12.99	15	+ .007	+ .400	6	.....	+ 24.14	15	3.0	29.93	68.0	33.0	6.0	30.0
	24	4.6	R.	+ 13.31	7	+ .001	+ .400	1	.....	.....	..	4.0	29.68	68.2	50.0	8.0	45.0
	24	7.4	R.	+ 13.33	4	+ .001	+ .400	2	.....	+ 23.47	14	..	.....	...	..	...	...
	26	5.0	R.	+ 13.04	19	— .006	+ .372	4	42.652	+ 25.33	23	4.0	29.83	62.5	16.2	6.0	16.0
	27	5.9	R.	+ 12.92	8	— .004	+ .416	3	42.613	+ 26.34	12	5.0	29.69	62.9	20.1	7.0	18.1
	28	4.6	R.	+ 12.85	9	— .003	+ .438	3	42.630	+ 26.73	15	4.0	29.74	62.0	26.5	7.0	21.1
	28	7.0	R.	+ 12.84	5	— .003	+ .438	4	.....	+ 26.73	..	..	.....	...	..	...	...
March	1	6.1	M.	+ 12.77	3	— .002	+ .467	3	.....	+ 27.47	12	6.0	30.07	65.0	20.0	9.0	17.1
	1	7.5	M.	+ 12.76	7	— .002	+ .467	3	.....	+ 27.47	..	..	.....	...	..	...	...
	3	5.6	R.	+ 12.73	8	+ .002	+ .356	2	42.658	+ 26.27	18	5.0	29.89	69.0	31.0	8.0	26.0
	3	7.2	R.	+ 12.74	9	+ .002	+ .356	5	.....	+ 26.27	..	..	.....	...	..	...	...
	11	5.7	R.	+ 13.74	4	+ .002	+ .398	..	42.689	+ 25.32	13	5.0	30.08	64.1	33.0	8.0	32.7

1872. Mean Day and Sidereal Hour.			Observer.	Adopted value of $\Delta t + m$.		Adopted hourly rate of the Standard Clock.	Adopted value of n .		Micrometer reading for Zero of Collimation.	Equator-Point Correction.		Sidereal Hour.	Barometer.		Att. Ther.	Ext. Ther.	Sidereal Hour.	Ext. Ther.
<i>d.</i>	<i>h.</i>			<i>s.</i>	No. of Observations.		<i>s.</i>	No. of Observations.	<i>r.</i>	<i>"</i>	No. of Observations.	<i>h.</i>	<i>in.</i>	<i>°</i>	<i>°</i>		<i>h.</i>	<i>°</i>
Mar.	11	7.3	R.	+13.71	7	—0.003	+398	4	.....	+25.32	13	..	.....	...	...	...	...	...
	14	6.3	R.	+12.95	4	—0.012	+366	3	42.712	+26.80	10	6.0	29.93	72.1	39.5		8.0	35.2
	14	7.9	R.	+12.93	3	—0.012	+366	2	.....	.....	..	..	.....	...	...	...	...	...
	18	8.1	R.	+14.20	4	—0.006	+424	5	42.671	+26.32	6	6.0	29.90	66.8	25.0		8.0	21.6
	19	6.0	R.	+14.22	3	+0.001	+382	2	42.670	+25.57	16	6.0	29.75	59.0	31.3		8.0	27.3
	19	7.4	R.	+14.22	11	+0.001	+382	3	.....	.....	..	...	.....	...	...	...	...	...
	21	7.2	R.	+14.32	7	+0.004	+460	2	42.643	+28.45	12	7.0	30.00	66.0	18.5		9.0	16.6
	21	8.8	R.	+14.25	4	+0.004	+460	2	.....	.....	..	..	.....	...	...	...	...	...
	24	7.4	R.	+14.79	5	+0.007	+420	2	42.676	+25.34	5	7.0	30.25	57.0	28.0		9.0	27.5
	27	8.3	R.	+15.30	10	+0.004	+330	2	42.694	+25.01	11	7.0	30.08	69.0	34.1		9.0	31.8
	28	6.8	R.	+15.33	4	—0.004	+306	3	42.690	+24.77	7	7.0	30.07	63.2	36.0		10.0	32.6
	28	9.7	R.	+15.28	5	—0.004	+306	5	.....	.....	..	..	.....	...	...	...	.....	.....
April	1	9.3	R.	+14.44	9	—0.004	+261	7	42.710	+24.39	11	9.0	29.67	64.2	29.8		9.0	29.4
	2	9.0	R.	+14.41	15	—0.004	+235	6	42.710	+24.76	18	8.0	30.06	64.9	36.0		9.0	34.5
	3	7.1	R.	+14.58	8	+0.003	+218	..	42.695	+24.61	12	7.0	29.93	71.0	40.8		9.0	36.4
	3	8.8	R.	+14.55	5	+0.003	+218	4	.....	.....	..	...	.....	...	...	...	...	...
	4	7.2	R.	+14.52	6	—0.004	+220	2	42.700	+25.43	6	7.0	30.13	68.0	42.0		9.0	38.6
	6	9.4	R.	+14.14	9	—0.009	+140	6	42.734	+24.69	11	9.0	30.16	73.2	41.4		10.0	40.8
	10	8.5	R.	+13.12	7	—0.013	+187	3	42.720	+26.40	7	7.0	29.83	65.8	48.8		10.0	43.3
	11	8.4	R.	+12.77	4	—0.012	+185	2	41.977	+32.02	4	8.0	30.22	70.2	44.7		10.0	40.4
	17	10.1	R.	+11.61	15	—0.007	+150	6	41.946	+33.27	19	9.0	30.07	66.3	46.2		12.0	39.6
	18	10.4	R.	+11.49	15	—0.011	+160	3	41.946	+33.19	17	9.0	29.75	67.0	44.5		11.0	40.4
	19	10.9	M.	+11.09	7	—0.010	+173	6	.....	+34.37	11	10.0	29.73	65.3	42.3		11.0	40.6
	20	11.8	R.	+10.97	5	—0.006	+085	1	41.982	+32.96	6	11.0	30.04	71.8	58.7		12.0	56.3
	21	10.2	R.	+10.80	15	—0.010	+058	9	41.991	+33.84	20	9.0	29.98	64.8	56.0		12.0	51.1
	22	10.8	R.	+10.51	10	—0.013	+020	4	41.989	+34.33	13	10.0	29.92	63.4	44.5		12.0	38.4
	23	10.3	R.	+10.19	16	—0.009	+065	2	41.978	+34.45	17	9.0	30.03	68.0	44.5		11.0	38.1
	24	11.1	R.	+10.09	11	—0.003	+077	3	41.979	+33.71	13	10.0	29.97	62.4	50.1		12.0	44.8
	25	11.0	R.	+10.04	19	—0.007	+070	4	.....	+33.61	22	10.0	29.93	61.0	49.6		12.0	48.0
	26	10.9	M.	+ 9.75	16	—0.009	—030	4	.....	+35.08	23	10.0	29.68	71.8	65.5		12.0	59.9
	27	10.9	M.	+ 9.59	11	—0.011	+040	4	.....	+35.45	21	10.0	29.99	64.0	51.8		12.0	49.2
	29	9.8	R.	+ 8.91	9	—0.011	+045	6	41.983	+34.23	10	9.0	30.24	69.0	47.6		12.0	42.0
	30	10.2	R.	+ 8.71	6	—0.011	+055	2	41.983	+35.06	7	10.0	30.32	67.1	51.9		12.0	46.0
May	20	11.7	R.	+ 6.24	3	+0.011	—050	1	44.778	— 6.53	3	11.0	29.61	67.0	62.9		12.0	61.0
	22	11.8	R.	+ 6.77	5	+0.011	—060	1	44.767	— 7.18	5	11.0	30.07	67.5	60.3		13.0	56.7

NOTES UPON THE OBSERVATIONS.

1871.

APRIL 26. Wm. A. Rogers and A. M. McConnel begin observations of the General Catalogue (G. C.) under the initials, R. and M. The fixed circle is read by means of microscopes A. and B. The runs are obtained from measures of the nearest 5' spaces corresponding to $\delta = +7^\circ 15'$, the values of these spaces having been found to be exactly 5' for each microscope. The fixed circle of the telescope is now east.

MAY 9. The declination micrometer, which carries the inclined declination wire, was found to read 16.550 revolutions at the close of the observations. The observer is suspicious that it was disturbed during the evening.

MAY 18. Replaced the system of spider lines with a system of lines etched upon glass. The lines were ruled with the Clark Micrometer, constructed for measuring solar photographs. The following is the arrangement of the wires, together with the number of revolutions of the Clark screw, to which the spaces correspond:—

Group.	Wires.	No. Rev.	Group.	Wires.	No. Rev.	Group.	Wires.	No. Rev.
				1	1.60			
	1	0		2	2.00		1	4.00
A_{+1}	2	.40	A	3	2.40	A_{-1}	2	4.40
	3	.80		4	2.80		3	4.80
				5	3.20			

By the process of etching, a narrow line of light appears uniformly in the center of each line. Through this opening, there is no difficulty in observing stars as faint as 9.5 magnitude. The equatorial interval between two adjacent lines is supposed to be $2^s.06$, and between two adjacent groups to be $4^s.12$. The declination wire is ruled with an inclination of 5° to the horizon.

MAY 25. Put in a new set of wires, the declination wire not proving satisfactory.

JUNE 1. Put in a new set of wires, the set last put in, being too fine. The following are the values of the readings of the wires made with the micrometer screw of the north collimator:—

Group.	Wires.	No. Rev.	Group.	Wires.	No. Rev.	Group.	Wires.	No. Rev.
				1	32.744			
	1	26.115		2	34.406		1	42.689
A_{+1}	2	27.746	A	3	36.028	A_{-1}	2	44.333
	3	29.418		4	37.711		3	45.797
				5	39.361			

Mean of A_{+1} and A_{-1} = 36.017 rev.

Mean of A = 36.050 rev.

READINGS FOR EACH EDGE OF THE WIRES.

Groups.	Wires.	1st Edge.	2d Edge.	Mean.	Breadth of Wire.	Intervals.
	1	26.039 rev.	26.183 rev.	26.111 rev.	0.144 rev.	
A_{+1}	2	27.683	27.817	27.750	0.134	1.639 rev.
	3	29.352	29.478	29.415	0.126	1.665

1871.

READINGS FOR EACH EDGE OF THE WIRES. — *Continued.*

Groups.	Wires.	1st Edge.	2d Edge.	Mean.	Breadth of Wire.	Intervals.
A	1	32.638	32.806	32.722	0.168	3.307
	2	34.309	34.463	34.386	0.154	1.664
	3	35.950	36.092	36.021	0.142	1.635
	4	37.618	37.767	37.692	0.149	1.671
	5	39.274	39.424	39.349	0.150	1.657
A ₋₁	1	42.595	42.751	42.673	0.156	3.324
	2	44.192	44.417	44.304	0.225	1.631
	3	45.674	45.902	45.788	0.228	1.484

Mean of A₊₁ A and A₋₁ = 36.019 rev.Mean of A₊₁ and A₋₁ = 36.007 rev.

Mean of A = 36.034 rev.

Since one revolution of the micrometer screw = 1°.25, the equatorial value of a single interval = 2°.050.

JUNE 2. The last set of wires are still a little too fine. Put in a new set with the same intervals as before. Of course, these changes produce variations in the reading for the zero of collimation.

JUNE 7. Made a trial of a new set of lines. In this set, the intervals correspond to 50 divisions of the Clark micrometer.

JUNE 19. Put back the set of June 2.

JULY 10. Took out the diaphragm, in order to remove a particle of dust from the surface.

JULY 11. Adjusted the wires carefully for verticality. Since the length of each transit line is nearly 1 inch, it is possible to get a very perfect adjustment by sweeping the telescope over the intersection of the cross wires of the north collimator.

JULY 19. Upon attempting to observe, found that the glass diaphragm had been broken. It was evidently done by shoving up the eye-piece. Both M. and R. are confident that it was done by some visitors who examined the instrument during the day. Put in a new set of wires having the same intervals as before. Also put a guard on the eye-piece to prevent a similar accident.

JULY 20. Seeing very bad towards the close of the observations.

JULY 23. Readings of the new set of wires with the north collimator screw: —

Group.	Wires.	No. Rev.	Group.	Wires.	No. Rev.	Group.	Wires.	No. Rev.
				1	49.693			
	1	56.277		2	48.027		1	39.757
A ₊₁	2	54.642	A	3	46.638	A ₋₁	2	38.090
	3	52.988		4	44.729		3	36.443
				5	43.062			

Mean of A₊₁ A and A₋₁ = 46.395 rev.

Mean of A = 46.430 rev.

AUG. 17. A brilliant aurora interferes with the observations.

SEPT. 11. Reversed the telescope from "circle east" to "circle west." From this date microscopes E. and G. are substituted for A. and B.

SEPT. 14. Seeing very bad indeed.

1871.

SEPT. 18. Seeing bad.

SEPT. 21. Seeing bad the first part of the evening, but good towards the latter part.

SEPT. 25. Note with regard to the circle-readings. The stroke is counted in the same direction as for the circle in the opposite position, *i. e.* in the *opposite* direction from the apparent motion of the micrometer thread of the microscope for an increasing reading of the screw-head. If the degrees are desired, the reading of the circle must be subtracted from 360° , giving south-zenith distances. The runs are now observed on the nearest 5' space corresponding to $\delta = +12^\circ 18'$.

SEPT. 27. The south clock stopped at 7^h. without assignable cause. Set it about 6^s. fast.

SEPT. 29. Adjusted microscopes.

OCT. 4. M. observes from 21^h. 4^m. till 22^h. 10^m. R. observes after 22^h. 10^m.OCT. 8. M. observes from 20^h. 54^m. to 22^h. 10^m. R. observes after 22^h. 10^m.

OCT. 9. R. observes till 20^h. 37^m. M. observes from 20^h. 41^m. till 22^h. 45^m. R. observes after 22^h. 45^m.

OCT. 16. R. observes with north clock from 19^h. 11^m. R. observes with south clock from 20^h. 13^m. till 21^h. 50^m. M. observes after 21^h. 59^m.

OCT. 22. R. observes from 19^h. 10^m. till 20^h. 21^m. M. observes from 20^h. 24^m. till 22^h. 45^m.

OCT. 23. Took out the glass diaphragm and cleaned it. Adjusted carefully for verticality of wires after replacement. R. observes from 19^h. 14^m. till 21^h. 14^m. R. observes a few stars in connection with M. after 21^h. 37^m.

NOV. 2. R. observes from 19^h. 12^m. till 21^h. 28^m. M. observes from 22^h. 28^m. till 22^h. 45^m. M. observes from 23^h. 50^m. to 0^h. 0^m. R. observes after 0^h.

NOV. 6. The micrometer reading for the zero of collimation was found to be 46.220 rev. on the morning of Nov. 7. The value at which it was supposed to be set, is 46.280 rev.

DEC. 6. R. observes from 21^h. 40^m. M. observes after 0^h. 2^m.DEC. 17. R. observes before 1^h. 30^m. M. observes after 1^h. 30^m.

1872.

JAN. 12. Set the south clock forward 30^s.

JAN. 14. Seeing bad.

JAN. 15. Seeing bad.

JAN. 25. In attempting to clean the glass diaphragm, it was started from its bearings, and, falling to the floor, it was broken. In attempting to reproduce it, I found myself unable to etch the lines in such a way that they would show a line of light in the center. After many trials, I succeeded in ruling satisfactory double lines, the space between the lines being a little greater than the width of the lines, while the whole width of the double lines is nearly the same as that of the previous single ones.

In producing the etching fumes, the proportion of cryolite to sulphuric acid was taken as 1 to 40 by weight; and the time of exposure was five minutes.

The glass is now cemented to a thin brass diaphragm, which is fastened to the screw plate by means of set screws. In the future, therefore, the glass plate can be taken out for cleaning without danger of breakage.

1872.

JAN. 30. R. observes from 1^h. 0^m. till 3^h. 59^m. M. observes after 3^h. 59^m.

JAN. 31. Seeing bad.

FEB. 14. Hit the eye-piece of the telescope with some force at about 2^h. 56^m. Cleaned the glass diaphragm after getting the collimation, but without removing it from its bearings.FEB. 22. Put in a new set of wires. The set of Jan. 25 does not prove to be quite coarse enough. The following sets of measures of the intervals were made with the Clark micrometer, the plate being mounted under a $\frac{1}{2}$ inch objective: —

FIRST SET OF MEASURES.						SECOND SET OF MEASURES.					
Group.	Wires.	No. Rev. 1st Wire.	No. Rev. 2d Wire.	Diff.	No. Rev. for Mean of Wires.	Group.	Wires.	No. Rev. 1st Wire.	No. Rev. 2d Wire.	Diff.	No. Rev. for Mean of Wires.
A ₊₁	1	43.06	46.14	3.08	0 44.60	A ₊₁	1	49.48	52.44	2.96	0 50.96
	2	83.26	85.92	2.66	0 84.59		2	89.58	92.42	2.84	0 91.00
	3	23.07	25.52	2.45	1 24.29		3	29.30	32.42	3.12	1 30.86
A	1	3.14	5.84	2.70	2 4.49	A	1	9.62	12.58	2.96	2 11.10
	2	42.62	45.60	2.98	2 44.11		2	49.96	52.88	2.92	2 51.42
	3	83.26	85.94	2.68	2 84.60		3	89.80	92.38	2.58	2 91.09
	4	22.30	25.66	3.36	3 23.98		4	29.24	32.38	3.14	3 30.81
	5	63.16	65.92	2.76	3 64.54		5	69.76	72.72	2.96	3 71.24
A ₋₁	1	42.72	45.80	3.08	4 44.26	A ₋₁	1	50.22	52.82	2.60	4 51.52
	2	82.52	85.92	3.30	4 84.22		2	89.98	92.62	2.64	4 91.30
	3	22.52	25.50	2.98	5 24.01		3	29.08	32.22	3.14	5 30.65

One division = .051^s.

APRIL 1. In those cases in which there are two readings of the circle, the first is by Joseph F. McCormick, who began to read on this date after several weeks of training.

APRIL 6. Trouble with the illumination, both of the wires and of the microscopes. Found that J. F. M. has for 8 or 10 days been in the habit of throwing up the telescope by pushing on the dew cap, after putting on the cap. This may have disturbed the collimation.

MAY 2. Began a series of experiments to determine the compensation of the south clock. The pendulum was removed to the factory of E. Howard and Sons, and subjected to a range of temperature varying between 70° and 180° Fah. The experiments were continued till May 15; resulting in the removal of 92 dwt. of mercury from the jar.

OBSERVATIONS

MADE WITH THE MERIDIAN CIRCLE

OF THE OBSERVATORY OF BRIGHTON

IN THE YEAR 1825

BY
JAMES HALL, ESQ.
OF THE OBSERVATORY OF BRIGHTON.
LONDON:
PRINTED BY J. JOHNSON, ST. PAUL'S CHURCH-YARD.
1826.

OBSERVATIONS
MADE WITH THE MERIDIAN CIRCLE
AT THE
OBSERVATORY OF HARVARD COLLEGE,
DURING THE YEARS 1871-72.

Date. 1871.	Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
	1	2	3	4	5	6	7	8	9	10	11						
April 29 May 1	<i>a</i> CORVI. $a_0 = 12^h 1^m 48^s.91$																
	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>m.</i>	<i>s.</i>
	...	29.8	32.6	35.1	37.8	43.4	48.7	51.6	54.0	56.8	...	43.31	+0.02	+3.42	+2.17	1	48.92
April 29 May 1 2	...	...	...	...	...	43.4	48.9	51.7	54.4	...	...	43.44	0.03	3.22	2.19		48.88
	<i>e</i> CORVI. $a_0 = 12^h 3^m 32^s.69$																
	...	13.8	16.4	19.0	21.8	27.0	32.3	35.0	37.8	40.5	...	27.07	+0.02	+3.42	+2.13	3	32.64
April 29 May 1 2	...	14.0	16.7	19.3	22.2	27.3	32.7	35.4	38.2	40.7	...	27.39	0.02	3.22	2.15		32.78
	...	14.2	16.9	19.6	22.2	27.5	32.9	35.5	38.2	40.9	...	27.54	0.04	3.06	2.15		32.79
	4 H. DRACONIS.* $a_0 = 12^h 6^m 10^s.47$																
April 26 29 May 2	...	7.8	20.8	32.6	44.7	9.6	34.3	46.0	57.9	10.7	...	9.38	-0.23	+3.31	-1.93	6	10.53
	...	...	...	...	...	9.4	34.0	46.2	58.0	10.6	...	9.32	0.51	3.42	1.75		10.48
	...	...	...	...	...	9.7	34.0	46.0	58.6	11.0	...	9.74	0.80	3.06	1.58		10.42
April 29 May 1 2	γ CORVI. $a_0 = 12^h 9^m 13^s.50$																
	...	55.0	57.9	0.3	3.0	8.0	13.0	15.7	18.3	20.8	...	8.00	+0.01	+3.42	+2.14	9	13.57
	...	55.1	58.0	0.8	3.0	8.1	13.4	16.0	18.5	21.1	...	8.22	0.02	3.22	2.17		13.63
April 29 May 1 2	...	55.4	58.2	0.7	3.3	8.6	13.6	16.0	18.8	21.3	...	8.43	0.03	3.06	2.18		13.70
	η VIRGINIS.* $a_0 = 12^h 13^m 21^s.42$																
	...	3.7	6.2	8.6	11.1	16.0	21.0	23.4	25.8	28.5	...	16.03	-0.01	+3.31	+2.18	13	21.51
April 26 29 30 May 1 2	...	3.5	6.0	8.4	10.9	15.8	20.9	23.2	25.7	28.3	...	15.86	0.02	3.42	2.19		21.45
	...	3.6	6.2	8.6	11.0	16.1	21.0	23.5	25.9	28.4	...	16.03	0.01	3.29	2.19		21.50
	...	3.7	6.3	8.7	11.0	16.2	20.8	23.5	26.0	28.4	...	16.07	0.02	3.22	2.19		21.46
April 26 29 30 May 1 2	...	3.8	6.5	9.0	11.3	16.5	21.1	23.6	26.2	28.7	...	16.30	0.01	3.06	2.19		21.54
	12 COMÆ. $a_0 = 12^h 16^m 4^s.18$																
	...	...	...	...	...	59.0	4.5	7.3	10.0	12.7	...	58.94	-0.03	+3.31	+1.99	16	4.21
April 26 29 30 May 1 2	...	45.0	47.8	50.6	53.3	58.8	4.5	7.2	9.9	13.0	...	58.90	0.06	3.42	2.00		4.26
	...	45.1	48.0	50.6	53.3	58.8	4.6	7.1	10.1	12.7	...	58.92	0.06	3.29	2.01		4.16
	...	45.0	48.0	50.7	53.5	59.0	4.6	7.3	10.0	12.8	...	58.99	0.07	3.22	2.02		4.16
April 26 29 30 May 1 2	...	45.2	48.0	51.0	53.5	59.1	4.4	7.4	10.2	12.8	...	59.07	0.09	3.06	2.03		4.07
	13 COMÆ. $a_0 = 12^h 17^m 53^s.26$																
	...	34.0	36.9	39.6	42.4	48.0	53.3	56.0	59.0	1.8	...	47.89	-0.03	+3.31	+1.98	17	53.15
April 26 29 30 May 1 2	15 COMÆ. $a_0 = 12^h 20^m 33^s.39$																
	...	14.0	16.8	19.7	22.5	28.2	33.8	36.6	39.5	42.3	...	28.16	-0.03	+3.31	+1.92	20	33.36
	...	14.0	17.0	19.8	22.5	28.2	33.8	36.6	39.4	42.3	...	28.18	0.07	3.29	1.95		33.35
April 26 30 May 1 2	...	14.0	17.0	19.8	22.7	28.3	33.9	36.7	39.6	42.3	...	28.26	0.08	3.22	1.95		33.35
	...	14.2	17.1	19.9	22.8	28.4	34.2	37.0	39.8	42.7	...	28.46	0.10	3.06	1.96		33.38
	δ CORVI. $a_0 = 12^h 23^m 14^s.74$																
April 26 30 May 1 2	...	56.3	59.0	1.5	4.0	9.1	14.3	17.0	19.5	22.0	...	9.19	-0.01	+3.31	+2.12	23	14.61
	...	56.3	59.0	1.6	4.1	9.1	14.3	17.0	19.6	22.2	...	9.24	+0.01	3.29	2.14		14.68
	...	56.4	59.0	1.6	4.2	9.0	14.4	17.0	19.6	22.2	...	9.26	+0.01	3.22	2.14		14.63
April 26 30 May 1 2	...	56.6	59.2	1.6	4.3	9.4	14.5	17.1	19.6	22.2	...	9.39	+0.03	3.06	2.15		14.63

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.							
			A.	C.															
α CORVI. $\delta_0 = -24^\circ 0' 52''.8$																			
April 29 May 1	m. 1	s. 11.5	20	1	44.0	50.2	21	47.10	21	11.53	58	23.18	-2	11.56	-1.58	-6.30	-9.47	0	52.1
	2	3.5	20	0	46.0	53.2	20	49.60	21	12.08	58	23.73	2	11.00	1.92	8.92	9.32		54.9
ϵ CORVI. $\delta_0 = -21^\circ 54' 28''.2$																			
April 29 May 1 2	3	50.3	10	4	27.2	37.0	14	32.10	14	58.46	52	10.11	-1	59.55	-1.79	-6.30	-10.22	54	28.0
	3	4.7	15	0	21.2	28.8	15	25.00	14	59.21	52	10.86	1	59.05	1.94	8.92	10.11		30.9
	3	6.8	15	0	17.7	26.1	15	21.90	14	58.38	52	10.03	1	59.08	1.97	7.07	10.04		28.2
4 H. DRACONIS.* $\delta_0 = +78^\circ 19' 39''.4$																			
April 26 29 May 2	5	33.0	0	3	26.8	22.1	3	24.45	3	15.42	19	32.93	+0	43.18	+1.95	-7.73	-31.03	19	39.3
	5	50.3	0	3	21.7	16.3	3	19.00	3	14.29	19	34.06	0	41.96	2.03	6.30	31.73		40.0
	7	5.7	0	3	2.5	57.2	2	59.85	3	13.74	19	34.61	0	41.80	1.67	7.07	32.43		38.6
γ CORVI. $\delta_0 = -16^\circ 49' 52''.8$																			
April 29 May 1 2	8	46.3	10	1	3.6	10.3	11	6.95	10	41.51	47	53.16	-1	36.81	-1.72	-6.30	-11.21	49	49.2
	9	30.0	10	0	13.2	20.0	10	16.60	10	42.16	47	53.81	1	36.42	1.73	8.92	11.14		52.0
	8	47.4	10	1	3.9	10.0	11	6.95	10	42.33	47	53.98	1	36.43	1.75	7.07	11.10		50.4
η VIRGINIS.* $\delta_0 = +0^\circ 2' 40''.8$																			
April 26 29 30 May 1 2	12	51.0	15	4	18.0	26.0	19	22.00	18	51.39	3	56.96	-0	54.26	-0.68	-7.73	-14.34	2	39.9
	12	49.0	15	4	22.4	30.7	19	26.55	18	53.73	3	54.62	0	52.75	0.66	6.30	14.54		40.4
	12	31.8	15	4	7.1	16.2	19	11.65	18	52.30	3	56.05	0	52.95	0.71	7.45	14.54		40.4
	12	55.4	15	4	15.0	21.8	19	18.40	18	53.05	3	55.30	0	52.52	0.69	8.92	14.54		38.6
	12	58.2	15	4	10.9	19.0	19	14.95	18	52.78	3	55.57	0	52.52	0.70	7.07	14.64		40.6
12 COMÆ. $\delta_0 = +26^\circ 33' 24''.8$																			
April 26 29 30 May 1 2	16	7.6	45	3	28.7	32.6	48	30.65	48	40.07	34	8.28	-0	16.89	+0.07	-7.73	-20.00	33	23.7
	15	38.0	45	4	3.0	34.7	49	3.85	48	40.96	34	7.39	0	16.41	0.12	6.30	20.44		24.4
	15	34.6	45	4	6.3	8.1	49	7.20	48	40.59	34	7.76	0	16.48	0.09	7.45	20.60		23.3
	15	36.6	45	4	2.9	6.3	49	4.60	48	40.07	34	8.28	0	16.35	0.11	8.92	20.75		22.4
	15	38.8	45	4	0.6	4.9	49	2.75	48	40.52	34	7.83	0	16.35	0.13	7.07	20.90		23.6
13 COMÆ. $\delta_0 = +26^\circ 48' 30''.6$																			
April 26	18	0.9	30	3	17.0	20.3	33	18.65	33	32.85	49	15.50	-0	16.61	+0.03	-7.73	-19.99	48	31.2
15 COMÆ. $\delta_0 = +28^\circ 58' 48''.6$																			
April 26 30 May 1 2	20	12.9	20	3	33.8	36.3	23	35.05	23	18.67	59	29.68	-0	14.20	+0.17	-7.73	-20.45	58	47.5
	20	3.8	20	3	42.6	45.8	23	44.20	23	18.07	59	30.28	0	13.86	0.11	7.45	21.01		48.1
	19	58.7	20	3	47.1	50.0	23	48.55	23	16.86	59	31.49	0	13.74	0.05	8.92	21.17		47.7
	20	4.8	20	3	41.3	44.5	23	42.90	23	17.52	59	30.83	0	13.74	0.10	7.07	21.33		48.8
δ CORVI. $\delta_0 = -15^\circ 48' 8''.2$																			
April 26 30 May 1 2	22	48.0	5	4	21.7	30.4	9	26.05	9	1.07	46	12.72	-1	35.73	-1.03	-7.73	-11.68	48	8.9
	22	38.0	5	4	35.1	43.8	9	39.45	9	2.69	46	14.34	1	33.40	0.91	7.45	11.55		7.7
	22	43.8	5	4	28.3	37.5	9	32.90	9	2.86	46	14.51	1	32.63	0.97	8.92	11.51		8.5
	23	29.5	5	3	36.4	45.6	8	41.00	9	4.68	46	16.32	1	32.64	1.03	7.07	11.47		8.5

Date. 1871.	Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
	1	2	3	4	5	6	7	8	9	10	11						
η CORVI. $a_0 = 12^h 25^m 28^s.55$																	
April 26	...	10.2	13.0	15.3	17.9	23.0	28.3	30.7	33.4	36.0	...	23.09	-0.01	+3.31	+2.12	25	28.51
29	...	10.0	12.8	15.3	17.8	22.9	28.0	30.7	33.4	36.0	...	22.99	+0.01	3.42	2.13		28.55
30	...	10.4	12.9	15.5	18.0	23.1	28.2	30.8	33.5	36.0	...	23.16	+0.01	3.29	2.13		28.59
May 1	...	10.4	13.0	15.5	18.1	23.1	28.4	30.8	33.5	36.1	...	23.21	+0.01	3.22	2.13		28.57
2	...	10.5	13.0	15.6	18.2	23.3	28.5	31.0	33.6	36.2	...	23.32	+0.03	3.06	2.14		28.55
β CORVI. $a_0 = 12^h 27^m 40^s.01$																	
April 26	...	21.0	24.0	26.7	29.2	34.7	40.0	42.6	45.4	48.0	...	34.62	-0.00	+3.31	+2.08	27	40.01
May 1	...	21.2	24.0	26.8	29.4	34.6	40.0	42.8	45.6	48.0	...	34.71	+0.03	3.22	2.11		40.07
2	...	21.4	24.1	26.8	29.5	34.9	40.2	43.2	45.6	48.3	...	34.89	+0.04	3.06	2.11		40.10
κ DRACONIS.* $a_0 = 12^h 28^m 0^s.35$																	
May 11	...	...	...	35.7	43.0	57.9	12.6	20.0	27.4	35.0	...	57.72	-0.41	+2.99	-0.01	28	0.29
f VIRGINIS. $a_0 = 12^h 30^m 11^s.86$																	
April 26	...	54.0	56.6	59.0	1.4	6.5	11.3	13.9	16.3	18.8	...	6.42	-0.01	+3.31	+2.12	30	11.84
30	...	54.1	56.5	58.9	1.5	6.5	11.4	13.8	16.4	18.9	...	6.44	0.01	3.29	2.14		11.86
May 1	...	54.1	56.7	59.0	1.6	6.6	11.4	14.0	16.5	19.0	...	6.54	0.01	3.22	2.14		11.89
χ VIRGINIS. $a_0 = 12^h 32^m 38^s.53$																	
April 26	...	20.6	23.2	25.7	28.0	33.0	38.0	40.6	43.1	45.5	...	33.08	-0.01	+3.13	+2.12	32	38.50
30	...	20.6	23.2	25.5	28.1	33.0	38.0	40.5	42.9	45.6	...	33.05	0.01	3.29	2.13		38.46
May 1	...	20.8	23.2	25.7	28.3	33.3	38.1	40.7	43.2	45.6	...	33.21	0.00	3.22	2.14		38.57
2	...	20.7	23.3	25.8	28.5	33.4	38.2	40.8	43.3	45.7	...	33.30	0.00	3.06	2.14		38.50
γ VIRGINIS pr.* $a_0 = 12^h 35^m 10^s.50$																	
April 26	...	52.7	55.2	57.6	0.3	5.0	10.0	12.6	15.0	17.4	...	5.09	-0.02	+3.31	+2.07	35	10.45
30	...	52.7	55.2	57.7	0.2	5.0	10.0	12.5	15.0	17.5	...	5.09	0.01	3.29	2.08		10.45
May 1	...	52.9	55.4	57.8	0.3	5.2	10.2	12.7	15.1	17.5	...	5.23	0.01	3.22	2.08		10.52
2	...	53.0	55.4	58.0	0.4	5.4	10.4	12.8	15.2	17.8	...	5.38	0.01	3.06	2.09		10.52
10	...	53.0	55.6	58.0	0.7	5.5	10.5	12.8	15.3	17.8	...	5.47	0.01	2.92	2.12		10.50
B. A. C. 4287. $a_0 = 12^h 39^m 6^s.70$																	
May 1	...	44.0	47.9	51.3	55.0	2.1	9.2	12.8	16.4	20.1	...	2.09	-0.13	+3.21	+1.41	39	6.58
2	...	44.5	48.0	51.6	55.2	2.3	9.5	12.9	16.7	20.3	...	2.33	0.18	3.06	1.42		6.63
9	...	44.4	48.0	51.7	55.0	2.3	9.4	13.0	16.6	20.1	...	2.28	0.13	3.02	1.49		6.66
10	...	44.4	48.3	51.7	55.2	2.4	9.4	13.0	16.5	20.0	...	2.32	0.14	2.92	1.51		6.61
35 VIRGINIS. $a_0 = 12^h 41^m 20^s.35$																	
May 1	...	2.7	5.2	7.7	10.2	15.1	20.2	22.5	25.1	27.6	...	15.14	-0.02	+3.21	+2.06	41	20.39
2	...	2.9	5.4	7.9	10.4	...	20.3	22.8	25.2	27.7	...	15.32	0.03	3.06	2.07		20.42
9	...	3.0	5.5	8.0	10.6	15.3	20.3	22.7	25.2	27.7	...	15.36	0.02	3.02	2.09		20.45
10	...	3.0	5.6	8.0	10.5	15.4	20.4	22.8	25.4	27.8	...	15.43	0.02	2.92	2.10		20.43
11	...	2.9	5.5	8.0	10.4	15.5	20.3	22.7	25.2	27.9	...	15.38	0.03	2.99	2.10		20.44

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.								
			A.	C.																
η CORVI. $\delta_0 = -15^\circ 29' 13''.9$																				
April 26	25	39.3	45	4	42.3	50.4	49	46.35	50	5.46	27	17.11	-1	34.62	-1.83	-	7.73	-11.76	29	13.0
29	24	58.0	50	0	33.0	40.2	50	36.60	50	7.10	27	18.75	1	31.93	1.79	-	6.30	11.66		10.4
30	24	54.0	50	0	37.3	45.9	50	41.60	50	7.15	27	18.80	1	32.33	1.74	-	7.45	11.63		12.0
May 1	24	56.5	50	0	33.2	42.8	50	38.00	50	6.49	27	18.14	1	31.56	1.76	-	8.92	11.59		12.0
2	25	44.7	45	4	38.0	48.3	49	43.15	50	8.40	27	20.05	1	31.57	0.95	-	7.07	11.55		11.2
β CORVI. $\delta_0 = -22^\circ 41' 18''.8$																				
April 26	27	11.7	0	2	1.6	9.0	2	5.30	1	39.43	38	51.08	-2	7.39	-1.61	-	7.73	-10.81	41	18.6
May 1	27	45.1	0	1	25.9	35.3	1	30.60	1	42.35	38	54.00	2	3.24	1.58	-	8.92	10.41		18.2
2	27	10.8	0	2	5.8	14.6	2	10.20	1	43.09	38	54.74	2	3.28	1.58	-	7.07	10.31		17.0
κ DRACONIS.* $\delta_0 = +70^\circ 29' 38''.0$																				
May 11	27	41.8	50	3	4.5	57.2	53	0.85	52	54.35	29	54.00	+0	30.95	+1.52	-	-15.27	-31.82	29	39.4
f VIRGINIS. $\delta_0 = -5^\circ 7' 34''.5$																				
April 26	30	32.0	25	3	22.0	29.3	28	25.65	28	56.99	6	8.64	-0	64.96	-0.81	-	7.73	-13.40	7	35.5
30	29	55.8	25	4	4.3	13.2	29	8.75	28	55.94	6	7.59	0	63.40	0.85	-	7.45	13.46		32.7
May 1	29	43.0	25	4	21.2	29.6	29	25.40	28	56.74	6	8.39	0	62.87	0.78	-	8.92	13.47		34.4
χ VIRGINIS. $\delta_0 = -7^\circ 17' 27''.4$																				
April 26	32	9.3	35	4	6.7	14.8	39	10.75	38	41.84	15	53.49	-0	70.12	-0.89	-	7.73	-13.06	17	25.3
30	32	13.7	35	4	4.0	12.1	39	8.05	38	44.61	15	56.26	0	68.43	0.91	-	7.45	13.06		26.1
May 1	32	3.3	35	4	16.5	24.5	39	20.50	38	44.18	15	55.83	0	67.86	0.84	-	8.92	13.06		26.5
2	32	12.3	35	4	4.6	13.8	39	9.20	38	43.70	15	55.35	0	67.86	0.91	-	7.07	13.07		24.3
γ VIRGINIS pr.* $\delta_0 = -0^\circ 44' 50''.3$																				
April 26	34	42.2	5	1	43.7	50.1	6	46.90	6	18.86	43	30.51	-0	55.76	-1.23	-	7.73	-13.89	44	49.1
30	34	45.9	5	1	41.2	47.8	6	44.50	6	20.99	43	32.64	0	54.41	1.24	-	7.45	14.09		49.8
May 1	34	46.3	5	1	39.4	46.8	6	43.10	6	19.96	43	31.61	0	53.97	1.25	-	8.92	14.09		49.8
2	34	42.8	5	1	46.0	53.0	6	49.50	6	21.83	43	33.48	0	53.97	1.22	-	7.07	14.19		49.9
10	34	44.3	5	1	33.5	43.0	6	38.25	6	12.30	43	23.95	0	55.11	1.37	-	14.08	14.49		49.0
B. A. C. 4287. $\delta_0 = +46^\circ 8' 24''.5$																				
May 1	38	32.0	10	4	19.9	19.2	14	19.55	13	54.02	8	54.33	+0	3.79	+0.84	-	8.92	-24.04	8	26.0
2	38	37.6	10	4	16.2	16.8	14	16.50	13	55.55	8	52.80	0	3.79	0.89	-	7.07	24.27		26.1
9	38	24.8	10	4	22.2	20.4	14	21.30	13	49.49	8	58.86	0	3.83	0.44	-	9.79	26.20		27.1
10	38	37.8	10	4	8.0	8.0	14	8.00	13	47.22	9	1.13	0	3.87	0.63	-	14.08	26.40		25.2
35 VIRGINIS. $\delta_0 = +4^\circ 16' 19''.4$																				
May 1	40	51.0	5	0	46.4	54.1	5	50.25	5	20.83	17	27.52	-0	45.22	-1.31	-	8.92	-15.14	16	16.9
2	40	52.2	5	0	46.5	53.6	5	50.05	5	21.84	17	26.51	0	45.22	1.31	-	7.07	15.20		17.7
9	40	51.8	5	0	45.9	50.4	5	48.15	5	19.33	17	29.02	0	45.69	1.37	-	9.79	15.66		16.5
10	40	58.2	5	0	28.3	36.9	5	32.60	5	11.60	17	36.75	0	46.17	1.39	-	14.08	15.73		19.4
11	40	55.2	5	0	35.2	41.7	5	38.45	5	13.77	17	34.58	0	45.43	1.39	-	15.27	15.80		16.7

Date. 1871.	Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ.	ΔT + m.	Red. to 1872.0.	Mean Right Ascension for 1872 0.		
	1	2	3	4	5	6	7	8	9	10	11							
May	1	31 COMÆ. $a_0 = 12^h 45^m 27^s.76$																
	2	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m.	s.	
	9	...	...	...	...	...	22.9	28.4	31.3	34.0	36.7	...	22.82	-0.07	+3.21	+1.80	45	27.76
	10	...	8.9	11.8	14.5	17.4	23.0	28.6	31.2	34.1	37.0	...	22.94	0.10	3.06	1.80		27.70
	11	...	8.8	11.8	14.5	17.5	23.0	28.7	31.3	34.2	37.0	...	22.98	0.07	3.02	1.84		27.77
	11	...	9.0	11.8	14.6	17.5	23.0	28.6	31.5	34.3	37.0	...	23.03	0.08	2.92	1.85		27.72
May	1	...	9.0	11.8	14.6	17.4	23.0	28.7	31.4	34.3	37.0	...	23.02	0.09	2.99	1.85		27.77
	ε URSÆ MAJORIS.* $a_0 = 12^h 48^m 23^s.50$																	
	1	...	57.7	1.7	6.0	10.7	19.8	28.7	33.0	37.6	42.1	...	19.70	-0.19	+3.21	+0.77	48	23.49
	2	...	57.1	1.8	6.0	10.9	19.9	28.7	33.3	37.8	42.4	...	19.77	0.25	3.06	0.78		23.36
	9	...	57.1	1.9	6.1	10.8	19.7	28.8	33.2	37.8	42.3	...	19.74	0.19	3.02	0.88		23.45
	10	...	57.2	1.9	6.3	10.8	19.8	28.9	33.2	37.9	42.2	...	19.80	0.19	2.92	0.90		23.43
May	11	...	57.3	1.9	6.2	10.7	19.7	28.7	33.2	37.7	42.3	...	19.74	0.23	2.99	0.92		23.42
	12 CANUM VEN. seq.* $a_0 = 12^h 50^m 2^s.20$																	
	1	...	41.6	44.8	48.0	51.2	57.7	3.9	7.0	10.3	13.5	...	57.55	-0.10	+3.21	+1.51	50	2.17
	2	...	41.9	45.1	48.2	51.4	57.9	4.2	7.3	10.4	13.7	...	57.79	0.14	3.06	1.52		2.23
	9	...	41.8	45.1	48.1	51.4	57.8	4.0	7.3	10.5	13.8	...	57.75	0.11	3.02	1.56		2.22
	10	...	41.8	45.0	48.3	51.5	57.9	4.2	7.3	10.5	13.8	...	57.81	0.11	2.92	1.57		2.19
May	11	...	41.8	45.1	48.2	51.3	57.7	4.1	7.3	10.5	13.7	...	57.74	0.13	2.99	1.58		2.18
	36 COMÆ. $a_0 = 12^h 52^m 35^s.64$																	
	1	...	17.5	20.2	22.8	25.2	30.5	35.8	38.3	41.0	43.6	...	30.54	-0.05	+3.21	+1.90	52	35.60
	2	...	17.6	20.4	22.9	25.4	30.9	36.0	38.4	41.0	43.7	...	30.70	0.06	3.06	1.91		35.61
	9	...	17.8	20.3	23.0	25.6	30.8	35.9	38.5	41.0	43.7	...	30.73	0.05	3.02	1.93		35.63
	10	...	17.9	20.5	23.0	25.6	30.9	36.0	38.7	41.0	43.8	...	30.82	0.05	2.92	1.93		35.62
May	11	...	17.8	20.4	22.9	25.6	30.8	35.9	38.6	41.1	43.8	...	30.77	0.06	2.99	1.94		35.64
	ε VIRGINIS.* $a_0 = 12^h 55^m 48^s.27$																	
	1	...	30.5	33.0	35.7	38.0	43.2	48.2	50.8	53.3	55.8	...	43.17	-0.04	+3.21	+1.94	55	48.28
	2	...	30.8	33.3	35.8	38.4	43.3	48.4	51.0	53.5	56.0	...	43.39	0.05	3.06	1.94		48.34
	9	...	30.8	33.3	35.8	38.3	43.5	48.5	51.0	53.5	56.0	...	43.41	0.04	3.02	1.97		48.36
	10	...	30.6	33.6	36.0	38.6	43.6	48.6	51.0	53.7	56.1	...	43.53	0.04	2.92	1.97		48.38
May	11	...	30.8	33.3	35.8	38.4	43.5	48.4	51.0	53.5	56.1	...	43.42	0.04	2.99	1.97		48.34
	14 CANUM VEN. $a_0 = 12^h 59^m 45^s.19$																	
	1	...	25.1	28.2	31.2	34.4	40.6	46.8	49.8	52.8	55.9	...	40.53	-0.10	+3.21	+1.51	59	45.15
	2	...	25.3	28.6	31.6	34.7	40.7	46.9	50.0	53.0	56.1	...	40.77	0.13	3.06	1.51		45.21
	9	...	25.3	28.5	31.5	34.5	40.8	46.8	49.9	53.0	56.0	...	40.70	0.10	3.02	1.56		45.18
	10	...	25.5	28.5	31.6	34.7	40.8	47.0	50.0	53.0	56.3	...	40.82	0.10	2.92	1.57		45.21
May	11	...	25.3	28.5	31.5	34.6	40.8	46.9	50.0	53.1	56.0	...	40.74	0.12	2.99	1.57		45.18
	θ VIRGINIS.* $a_0 = 13^h 03^m 19^s.44$																	
	9	...	2.0	4.6	7.0	9.5	14.4	19.3	21.7	24.3	26.8	...	14.40	-0.01	+3.02	+2.06	3	19.47
	10	...	2.0	4.6	7.1	9.5	14.5	19.5	22.0	24.5	26.8	...	14.50	0.01	+2.92	2.06		19.47
	11	...	2.0	4.5	6.9	9.5	14.6	19.4	21.7	24.3	26.9	...	14.42	0.01	+2.99	2.06		19.46
	14	...	2.5	5.0	7.5	10.0	15.0	19.9	22.3	24.8	27.3	...	14.92	0.01	+2.43	2.07		19.41
June	6	6.6	8.7	10.7	13.2	15.4	17.4	19.5	21.4	24.1	26.2	28.4	17.42	0.02	-0.11	2.20		19.49

Date.	Declination	Circle	Microscopes.		Mean of	Mean	Apparent	Refraction.	Rd. M'n.	Eqr. Point	Red. to	Mean
1871.	Wire.	Divi- sion.	A.	C.	Microscopes.	reduced to Horizontal Wire.	Declination.		+ Runs. + Flex.	Correct'n.	1872.0.	Declination for 1872.0.
31 COMÆ. $\delta_0 = + 28^\circ 14' 16''.6$												
May	1	m. s.	' "	' "	' "	' "	' "	' "	' "	' "	' "	' "
	2	45 47.3	5 2 21.9 25.3	7 23.60	7 49.49	14 58.86	-0 14.54	-0.20	8.92	-19.89	14 15.3	
	9	44 58.3	5 3 14.1 20.0	8 17.05	7 50.52	14 57.83	0 14.54	0.01	7.07	20.06	16.1	
	10	45 00.0	5 3 11.2 13.8	8 12.50	7 47.69	15 0.66	0 14.69	0.21	9.79	21.25	14.7	
	11	44 55.0	5 3 10.6 13.8	8 12.20	7 42.00	15 6.35	0 14.84	0.26	14.08	21.42	15.7	
		45 2.8	5 3 2.6 4.9	8 3.75	7 41.96	15 6.39	0 14.60	0.19	15.27	21.58	14.8	
ε URSÆ MAJORIS.* $\delta_0 = + 56^\circ 39' 16''.9$												
May	1	47 35.8	40 3 42.3 41.2	43 41.75	43 12.20	39 36.15	+0 14.68	+0.85	8.92	-25.55	39 17.2	
	2	47 44.0	40 3 38.0 39.1	43 38.55	43 14.45	39 33.90	0 14.68	1.00	7.07	25.75	16.8	
	9	47 38.3	40 3 36.9 35.8	43 36.35	43 8.48	39 39.87	0 14.83	0.66	9.79	27.35	18.2	
	10	47 44.0	40 3 29.1 29.4	43 29.25	43 5.15	39 43.20	0 14.99	0.76	14.08	27.75	17.1	
	11	47 41.5	40 3 29.7 27.8	43 28.75	43 3.04	39 45.31	0 14.75	0.72	15.27	27.95	17.6	
12 CANUM VEN. seq.* $\delta_0 = + 39^\circ 0' 36''.2$												
May	1	49 31.1	20 2 2.3 2.2	22 2.25	21 37.04	1 11.31	-0 3.40	+0.09	8.92	-21.93	0 37.1	
	2	50 15.2	20 1 21.0 23.1	21 22.05	21 38.60	1 9.75	0 3.40	0.06	7.07	22.13	37.2	
	9	49 31.7	20 2 0.8 59.3	22 0.05	21 35.22	1 13.13	0 3.43	-0.02	9.79	23.53	36.4	
	10	49 35.1	20 1 52.1 50.8	21 51.45	21 29.85	1 18.50	0 3.47	+0.00	14.08	23.73	37.2	
	11	49 28.1	20 1 58.2 57.0	21 57.60	21 29.44	1 18.91	0 3.41	-0.08	15.27	23.93	36.2	
36 COMÆ. $\delta_0 = + 18^\circ 6' 0''.2$												
May	1	52 7.5	15 1 21.2 24.9	16 23.05	15 56.28	6 52.07	-0 26.02	-0.75	8.92	-17.51	5 58.8	
	2	52 7.6	15 1 21.0 27.5	16 24.25	15 57.37	6 50.98	0 26.62	0.75	7.07	17.64	58.9	
	9	52 11.4	15 1 14.7 17.8	16 16.25	15 53.79	6 54.56	0 26.29	0.83	9.79	18.56	59.1	
	10	52 9.8	15 1 11.4 16.2	16 13.80	15 49.36	6 58.99	0 26.57	0.85	14.08	18.69	58.8	
	11	52 5.4	15 1 16.3 19.5	16 17.90	15 48.34	7 0.01	0 26.14	0.86	15.27	18.82	58.9	
ε VIRGINIS.* $\delta_0 = + 11^\circ 38' 51''.4$												
May	1	55 18.5	40 3 24.0 28.8	43 26.40	42 56.78	39 51.57	-0 34.28	-0.56	8.92	-16.14	38 51.7	
	2	55 19.5	40 3 25.1 30.2	43 27.65	42 58.99	39 49.36	0 34.28	0.55	7.07	16.24	51.2	
	9	55 19.6	40 3 21.7 24.5	43 23.10	42 54.56	39 53.79	0 34.64	0.76	9.79	17.04	51.6	
	10	55 19.0	40 3 16.3 23.5	43 19.90	42 50.52	39 57.83	0 35.01	0.78	14.08	17.14	50.8	
	11	55 22.6	40 3 13.1 16.3	43 14.70	42 49.76	39 58.59	0 34.44	0.78	15.27	17.24	50.9	
14 CANUM VEN. $\delta_0 = + 36^\circ 29' 3''.8$												
May	1	59 7.2	50 3 41.9 43.6	53 42.75	53 9.97	29 38.38	-0 5.95	+0.26	8.92	-20.74	29 3.0	
	2	59 13.8	50 3 34.0 39.2	53 36.60	53 10.02	29 38.33	0 5.95	0.34	7.07	20.94	4.7	
	9	59 13.9	50 3 32.9 35.6	53 34.25	53 7.87	29 40.48	0 6.01	0.12	9.79	22.36	2.4	
	10	59 15.0	50 3 26.5 29.0	53 27.75	53 2.35	29 46.00	0 6.08	0.13	14.08	22.56	3.0	
	11	59 15.1	50 3 26.7 27.1	53 26.90	53 1.60	29 46.75	0 5.98	0.12	15.27	22.77	2.8	
θ VIRGINIS.* $\delta_0 = - 4^\circ 51' 18''.8$												
May	9	2 52.3	10 3 3.9 9.8	13 6.85	12 39.89	49 51.54	-1 2.93	-1.24	9.79	-13.53	51 19.0	
	10	2 49.0	10 3 1.5 10.6	13 6.05	12 34.94	49 46.59	1 3.60	1.23	14.08	13.53	19.0	
	11	2 51.6	10 2 59.4 65.7	13 2.55	12 34.67	49 46.32	1 2.56	1.25	15.27	13.53	18.9	
	14	2 54.5	10 2 55.4 63.8	12 59.60	12 34.71	49 46.36	1 2.34	1.26	15.48	13.63	19.1	
June	6	3 45.5	10 2 57.1 8.2	13 2.65	12 25.79	49 37.44	1 0.24	1.22	24.73	14.53	18.2	

Date.	Right Ascension Wires.											Seconds of transit over Mean Wire.	$n \tan \delta$ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
1871.	1	2	3	4	5	6	7	8	9	10	11					
43 COMÆ.* $a_0 = 13^h 5^m 53^s.92$																
May 9	...	35.2	38.1	41.0	43.6	49.4	55.0	57.8	0.5	3.4	...	49.33	-0.07	+3.02	+1.66	5 53.94
10	...	35.3	38.1	41.0	43.8	49.3	55.0	57.8	0.7	3.7	...	49.41	0.08	+2.92	1.66	53.91
11	...	35.3	38.0	40.9	43.8	49.4	55.0	57.8	0.6	3.4	...	49.35	0.09	+2.99	1.67	53.92
17	...	35.7	38.6	41.3	44.3	49.8	55.5	58.7	1.0	4.0	...	49.88	0.07	+2.43	1.69	53.93
June 6	40.0	42.4	44.8	47.6	50.0	52.3	54.5	57.0	0.0	2.4	4.7	52.34	0.23	-0.11	0.87	52.87
PI. XIII. 27. $a_0 = 13^h 7^m 54^s.55$																
May 9	...	33.9	37.1	40.5	43.8	50.4	56.7	0.0	3.4	6.6	...	50.27	-0.11	+3.02	+1.35	7 54.53
10	...	34.0	37.4	40.7	44.0	50.3	57.0	0.3	3.5	6.7	...	50.43	0.11	+2.92	1.36	54.60
11	...	34.0	37.3	40.6	43.9	50.3	56.9	0.1	3.5	6.7	...	50.37	0.13	+2.99	1.37	54.60
14	...	34.5	37.8	40.9	44.2	50.8	57.3	0.6	3.9	7.2	...	50.80	0.10	+2.43	1.40	54.53
June 6	39.0	41.8	44.4	47.9	50.6	53.5	56.2	59.0	2.1	5.0	7.8	53.39	0.36	-0.11	1.65	54.57
α URSÆ MINORIS L. C.* $a_0 = 1^h 11^m 57^s.61$																
May 1	...	6.5	50.4	33.6	15.0	41.8	7.3	48.9	32.0	16.1	...	41.27	+4.98	+3.21	+68.75	11 58.21
2	...	5.9	51.0	34.0	13.8	39.0	5.5	47.6	29.5	15.0	...	40.14	6.81	3.06	68.29	58.43
9	...	...	...	...	...	46.3	10.8	...	...	...	...	45.65	5.02	3.02	64.53	58.22
10	...	...	...	...	...	44.6	13.0	...	...	...	...	46.05	5.15	2.92	64.07	58.19
11	...	...	...	...	...	45.1	10.0	...	...	...	...	44.75	6.10	2.99	63.62	57.46
14	...	...	...	...	...	49.0	...	...	...	...	...	49.00	4.61	2.43	62.22	58.26
63 VIRGINIS. $a_0 = 13^h 16^m 9^s.93$																
May 9	...	52.0	54.7	57.1	59.8	4.9	10.0	12.7	15.2	17.7	...	4.90	+0.02	+3.02	+2.06	16 10.00
10	...	52.0	54.7	57.2	59.8	5.0	10.2	12.8	15.3	17.8	...	4.98	0.02	2.92	2.07	9.99
11	...	51.9	54.6	57.0	59.8	4.9	10.0	12.7	15.2	18.0	...	4.90	0.02	2.99	2.07	9.98
14	...	52.5	55.0	57.7	0.3	5.6	10.6	13.1	15.7	18.3	...	5.42	0.01	2.43	2.08	9.94
α VIRGINIS. $a_0 = 13^h 18^m 27^s.14$																
May 9	...	9.5	12.0	14.5	17.0	22.0	27.0	29.6	32.0	34.6	...	22.02	+0.00	+3.02	+2.05	18 27.09
11	...	9.3	12.0	14.3	17.0	22.0	27.0	29.5	32.1	34.7	...	21.99	0.01	+2.99	2.05	27.04
June 6	13.9	16.1	18.3	20.8	23.0	25.1	27.1	29.2	31.9	34.0	36.0	25.04	0.05	-0.11	2.16	27.14
ζ URSÆ MAJORIS pr.* $a_0 = 13^h 18^m 46^s.10$																
May 10	...	20.9	25.3	29.5	34.0	42.5	51.4	55.8	0.4	4.3	...	42.68	-0.19	+2.92	+0.53	18 45.94
14	...	21.3	25.7	30.0	34.6	43.5	52.0	56.4	0.6	5.1	...	43.24	0.17	2.43	0.59	46.09
70 VIRGINIS. $a_0 = 13^h 22^m 10^s.22$																
May 9	...	52.6	55.2	57.7	0.4	5.4	10.5	12.9	15.7	18.3	...	5.41	-0.04	+3.02	+1.83	22 10.22
10	...	52.8	55.2	57.9	0.4	5.5	10.7	13.0	15.7	18.3	...	5.50	0.04	+2.92	1.83	10.21
14	...	...	55.8	58.4	0.9	6.1	11.2	13.5	16.3	18.8	...	6.03	0.04	+2.43	1.84	10.26
June 6	57.4	59.5	1.6	4.3	6.4	8.5	10.6	12.8	15.4	17.5	19.7	8.52	0.12	-0.11	1.96	10.25
B. A. C. 4513 seq. $a_0 = 13^h 24^m 48^s.05$																
May 10	...	29.8	32.6	35.3	38.1	43.6	49.0	51.8	54.6	57.1	...	43.54	-0.07	+2.92	+1.65	24 48.04
11	...	29.8	32.7	35.3	38.1	43.5	49.0	51.7	54.4	57.1	...	43.51	0.08	+2.99	1.65	48.07
14	...	30.4	33.3	35.9	38.6	44.1	49.6	52.2	54.9	57.6	...	44.07	0.06	+2.43	1.66	48.10
June 6	34.7	37.0	39.0	42.0	44.3	46.7	48.9	51.1	54.0	56.3	58.6	46.60	0.20	-0.11	1.81	48.10

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			A.	C.								
43 COMÆ.* $\delta_0 = + 28^\circ 31' 39''.6$												
May 9	m. 5 24.2	s. 50 0	' 52.3	' 53.1	' 50 52.70	' 50 25.70	' 32 22.65	' -1 14.37	' -0.57	' -9.79	' -19.34	' 31 38.6
10	5 19.7	50 0	' 51.7	' 53.5	' 50 52.60	' 50 20.65	' 32 27.70	' 1 14.53	' 0.63	' 14.08	' 19.54	' 38.9
11	5 23.4	50 0	' 47.9	' 48.8	' 50 48.35	' 50 20.38	' 32 27.97	' 1 14.29	' 0.59	' 15.27	' 19.74	' 38.1
14	5 25.6	50 0	' 42.9	' 46.8	' 50 44.85	' 50 18.71	' 32 29.64	' 1 14.24	' 0.58	' 15.48	' 20.44	' 38.9
June 6	6 10.5	50 0	' 23.0	' 29.3	' 50 26.15	' 50 5.09	' 32 43.26	' 1 13.75	' 0.53	' 24.73	' 24.24	' 40.0
PI. XIII. 27. $\delta_0 = + 40^\circ 49' 52''.3$												
May 9	7 26.9	30 2	' 43.9	' 41.0	' 32 42.45	' 32 20.77	' 50 27.58	' -1 1.57	' +0.23	' -9.79	' -22.77	' 49 53.7
10	7 20.3	30 2	' 45.3	' 46.8	' 32 46.05	' 32 18.16	' 50 30.19	' 1 1.59	' 0.14	' 14.08	' 22.99	' 51.7
11	7 23.6	30 2	' 41.9	' 40.8	' 32 41.35	' 32 16.52	' 50 31.83	' 1 1.59	' 0.15	' 15.27	' 23.19	' 51.9
14	7 23.1	30 2	' 39.3	' 40.6	' 32 39.95	' 32 14.29	' 50 34.06	' 1 1.56	' 0.14	' 15.48	' 23.83	' 53.3
June 6	7 31.8	30 1	' 37.6	' 43.2	' 31 40.40	' 32 1.92	' 50 46.43	' 1 1.51	' 0.24	' 24.73	' 27.94	' 52.5
α URSÆ MINORIS L. C.* $\delta_0 = + 91^\circ 22' 23''.1$												
May 1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
9	9 10.8	0 0	' 54.9	' 45.2	' 0 50.05	' 00 50.05	' 21 58.30	' +1 6.90	' +1.89	' -9.79	' -30.40	' 22 26.9
10	12 37.3	0 1	' 2.1	' 49.7	' 0 55.90	' 00 52.63	' 21 55.72	' 1 7.63	' 1.74	' 14.08	' 30.60	' 20.4
11	9 18.4	0 0	' 48.5	' 39.2	' 0 43.85	' 00 43.86	' 22 4.49	' 1 6.53	' 1.88	' 15.27	' 30.80	' 26.8
14	10 49.0	0 0	' 46.4	' 39.6	' 0 43.00	' 00 43.02	' 22 5.33	' 1 6.30	' 1.88	' 15.48	' 31.50	' 26.5
63 VIRGINIS. $\delta_0 = - 17^\circ 3' 50''.40$												
May 9	15 41.0	25 0	' 4.3	' 10.3	' 25 7.30	' 24 39.32	' 1 50.97	' -1 38.33	' -1.94	' -9.79	' -11.12	' 3 52.1
10	15 44.3	20 4	' 53.8	' 60.6	' 24 57.20	' 24 32.97	' 1 44.62	' 1 39.37	' 1.23	' 14.08	' 11.10	' 50.4
11	15 41.3	20 4	' 59.3	' 65.3	' 25 2.30	' 24 34.68	' 1 46.33	' 1 37.76	' 1.95	' 15.27	' 11.09	' 52.4
14	15 46.0	20 4	' 50.7	' 62.8	' 24 56.75	' 24 34.04	' 1 45.69	' 1 37.44	' 1.24	' 15.48	' 11.01	' 50.9
α VIRGINIS. $\delta_0 = - 10^\circ 29' 31''.9$												
May 9	18 0.3	50 1	' 5.7	' 10.1	' 51 7.90	' 50 41.77	' 27 53.42	' -1 16.81	' -1.69	' -9.79	' -12.21	' 29 33.9
11	17 57.9	50 1	' 2.7	' 8.1	' 51 5.40	' 50 36.38	' 27 48.03	' 1 16.37	' 1.68	' 15.27	' 12.21	' 33.6
June 6	18 10.1	50 0	' 3.4	' 12.7	' 50 8.05	' 50 27.34	' 27 38.99	' 1 13.51	' 1.85	' 24.73	' 12.61	' 31.7
ζ URSÆ MAJORIS pr.* $\delta_0 = + 55^\circ 35' 38''.7$												
May 10	18 1.4	45 2	' 13.7	' 13.7	' 47 13.70	' 46 45.13	' 36 3.22	' +1 13.83	' +0.42	' -14.08	' -25.14	' 35 38.3
14	18 3.1	45 2	' 8.6	' 9.5	' 47 9.05	' 46 41.31	' 36 7.04	' 1 13.56	' 0.43	' 15.48	' 26.14	' 39.4
70 VIRGINIS. $\delta_0 = + 14^\circ 27' 47''.2$												
May 9	21 49.3	50 4	' 21.1	' 23.8	' 54 22.45	' 54 3.36	' 28 44.99	' -1 30.87	' -0.48	' -9.79	' -16.49	' 27 47.4
10	21 43.0	50 4	' 23.4	' 27.2	' 54 25.30	' 53 58.62	' 28 49.73	' 1 31.20	' 0.52	' 14.08	' 16.62	' 47.3
14	21 45.0	50 4	' 18.0	' 23.8	' 54 20.90	' 53 55.88	' 28 52.47	' 1 30.59	' 0.52	' 15.48	' 17.14	' 48.7
June 6	21 52.5	50 3	' 20.0	' 28.6	' 53 24.30	' 53 44.70	' 29 3.65	' 1 29.54	' 0.29	' 24.73	' 17.67	' 51.4
B. A. C. 4513. seq. $\delta_0 = + 24^\circ 53' 52''.6$												
May 10	24 22.6	25 3	' 25.1	' 29.0	' 28 27.05	' 28 3.84	' 54 44.51	' -0 18.55	' -0.27	' -14.08	' -18.57	' 53 53.0
11	24 18.5	25 3	' 30.0	' 32.8	' 28 31.40	' 28 3.63	' 54 44.72	' 0 18.25	' 0.30	' 15.27	' 18.74	' 52.2
14	24 20.7	25 3	' 25.8	' 31.3	' 28 28.55	' 28 2.56	' 54 45.79	' 0 18.18	' 0.29	' 15.48	' 19.25	' 52.6
June 6	25 5.3	25 3	' 8.2	' 15.3	' 28 11.75	' 27 49.42	' 54 58.93	' 0 17.56	' 0.12	' 24.73	' 22.80	' 53.8

Date.	Right Ascension Wires.											Seconds of transit over Mean Wire.	$n \tan \delta$ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
1871.	1	2	3	4	5	6	7	8	9	10	11					
ζ VIRGINIS.* $\alpha_0 = 13^h 28^m 10^s.31$																
May 9	...	53.2	55.5	58.0	0.5	5.4	10.4	12.7	15.3	17.8	...	5.42	-0.01	+3.02	+1.95	28 10.38
10	...	53.0	55.6	58.0	0.6	5.4	10.4	12.9	15.4	17.9	...	5.47	0.02	+2.92	1.95	
14	...	53.8	56.2	58.6	1.0	6.0	11.0	13.4	15.9	18.3	...	6.02	0.01	+2.43	1.95	
June 6	57.5	59.7	1.7	4.4	6.5	8.4	10.5	12.5	15.2	17.2	19.3	8.45	0.01	-0.11	2.04	
25 CANUM VEN. $\alpha_0 = 13^h 31^m 46^s.37$																
May 9	...	26.7	29.8	32.9	36.0	42.1	48.3	51.4	54.5	57.7	...	42.15	-0.10	+3.02	+1.29	31 46.36
10	...	26.7	29.9	33.0	36.0	42.0	48.4	51.6	54.7	57.7	...	42.22	0.10	2.92	1.29	
11	...	...	...	...	...	42.2	48.4	51.3	54.5	57.6	...	42.15	0.12	2.99	1.30	
14	...	27.3	30.4	33.4	36.4	42.7	48.9	52.0	55.0	58.2	...	42.70	0.09	2.43	1.31	
m VIRGINIS. $\alpha_0 = 13^h 34^m 53^s.68$																
May 9	...	36.6	38.8	41.3	43.9	48.8	53.9	56.2	58.7	1.1	...	48.81	-0.00	+3.02	+2.00	34 53.83
11	...	36.2	39.0	41.3	43.8	48.8	53.8	56.2	58.8	1.3	...	48.80	+0.00	+2.99	2.01	
14	...	36.8	39.3	41.8	44.5	49.4	54.3	56.8	59.3	1.8	...	49.33	+0.00	+2.43	2.01	
June 6	40.8	42.9	45.0	47.6	49.7	51.8	53.8	56.0	58.5	0.7	2.8	51.78	+0.04	-0.11	2.09	
83 VIRGINIS. $\alpha_0 = 13^h 37^m 35^s.70$																
May 9	...	17.8	20.3	22.9	25.6	30.6	35.7	38.5	41.0	43.7	...	30.68	+0.01	+3.02	+2.04	37 35.75
11	...	17.7	20.4	23.0	25.5	30.7	35.7	38.3	40.9	43.5	...	30.63	0.02	+2.99	2.04	
14	...	18.3	21.0	23.3	26.0	31.0	36.3	38.8	41.4	44.0	...	31.12	0.01	+2.43	2.05	
June 6	22.3	24.6	26.5	29.2	31.4	33.5	35.8	37.7	40.5	42.4	44.8	33.52	0.09	-0.11	2.12	
87 VIRGINIS. $\alpha_0 = 13^h 40^m 27^s.83$																
May 9	...	9.8	12.7	15.0	17.6	22.8	28.0	30.7	33.2	35.8	...	22.84	+0.02	+3.02	+2.04	40 27.92
14	...	10.4	13.0	15.6	18.2	23.3	28.6	31.1	33.7	36.3	...	23.35	0.01	+2.43	2.04	
June 6	14.5	16.7	18.7	21.3	23.6	25.8	28.0	30.2	32.6	35.0	37.3	25.79	0.11	-0.11	2.11	
η URSÆ MAJORIS.* $\alpha_0 = 13^h 42^m 29^s.71$																
May 9	...	6.8	10.9	14.8	18.6	26.0	33.8	37.7	41.5	45.5	...	26.18	-0.15	+3.02	+0.59	42 29.64
14	...	7.3	11.4	15.2	18.9	26.7	34.4	38.3	42.0	46.1	...	26.70	0.14	+2.43	0.62	
June 12	2.6	6.6	10.6	22.6	26.6	30.6	34.6	38.6	50.5	54.5	58.5	30.57	0.52	-1.41	1.01	
14	2.9	6.8	10.8	22.7	26.7	30.7	34.8	38.7	50.7	54.8	59.0	30.78	0.50	-1.71	1.05	
21	12.5	15.6	18.8	25.1	28.4	31.5	34.7	38.0	44.2	47.6	50.7	31.56	0.60	-2.50	1.19	
h CENTAURI. $\alpha_0 = 13^h 46^m$																
May 9	...	31.6	34.6	37.4	40.2	45.8	51.8	54.7	57.7	0.5	...	46.03	+0.05	+3.02	+2.06	45 51.16
14	...	31.8	34.8	37.7	40.5	46.2	52.3	55.0	58.0	0.8	...	46.34	0.04	+2.42	2.06	
June 6	36.0	38.3	40.8	43.9	46.1	48.7	50.9	53.3	56.4	58.8	1.3	48.59	0.22	-0.12	2.13	
12	28.8	31.8	34.8	43.8	46.8	49.8	52.9	55.8	4.8	7.8	10.9	49.82	0.24	-1.42	2.17	
14	29.0	32.1	35.2	44.2	47.3	50.3	53.3	56.3	5.3	8.4	11.3	50.25	0.23	-1.71	2.18	
η BOOTIS.* $\alpha_0 = 13^h 48^m 35^s.38$																
June 17	16.9	19.7	22.4	30.6	33.2	35.9	38.7	41.3	49.5	52.3	54.9	35.95	-0.17	-2.13	+1.81	48 35.46
21	23.1	25.3	27.7	31.8	34.0	36.3	38.4	40.6	44.9	47.0	49.1	36.20	0.18	2.50	1.85	
25	...	...	...	32.2	34.4	36.6	38.8	41.0	...	...	...	36.60	0.16	2.84	1.89	
26	23.5	25.7	27.9	32.2	34.4	36.5	38.7	40.9	45.2	47.4	49.5	36.54	0.16	2.92	1.90	
29	24.2	26.4	28.5	32.8	35.0	37.2	39.4	41.6	45.8	48.0	50.2	37.19	0.15	3.55	1.93	

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			A.	C.								
ζ VIRGINIS.* δ ₀ = + 0° 3' 33".6												
May 9	m. 27	s. 50.6	15	3	13.5	20.1	18 16.80	17 58.68	4 49.67	-0 53.01	-1.09	3 32.2
10	27	40.9	15	3	19.2	27.1	18 23.15	17 53.03	4 55.32	0 53.58	1.08	32.9
14	28	24.5	15	2	26.0	35.0	17 30.50	17 53.15	4 55.20	0 52.53	1.22	32.1
June 6	27	51.2	15	2	15.3	27.1	17 21.20	17 43.85	5 4.50	0 50.73	1.00	32.6
25 CANUM VEN. δ ₀ = + 36° 56' 48".4												
May 9	31	13.8	25	0	51.4	53.2	25 52.30	25 24.51	57 23.84	-0 5.54	-0.30	56 48.0
10	31	11.5	25	0	47.0	50.2	25 48.60	25 18.56	57 29.79	0 5.60	0.36	49.3
11	31	12.6	25	0	47.7	47.8	25 47.75	25 18.79	57 29.56	0 5.51	0.33	47.8
14	31	20.3	25	0	36.9	40.4	25 38.65	25 16.73	57 31.62	0 5.49	0.26	49.3
m VIRGINIS. δ ₀ = - 8° 3' 22".1												
May 9	34	27.0	20	4	61.3	67.5	25 4.40	24 37.97	1 49.62	-1 10.40	-1.78	3 23.8
11	34	19.2	25	0	6.2	11.7	25 8.95	24 33.06	1 44.71	1 10.00	1.74	23.9
14	34	30.0	20	4	52.3	60.6	24 56.45	24 33.05	1 44.70	1 9.76	1.80	24.0
June 6	34	35.2	20	3	56.4	67.2	24 1.80	24 23.44	1 35.09	1 7.39	0.80	21.0
83 VIRGINIS. δ ₀ = - 15° 32' 3".9												
May 9	37	14.2	50	3	12.6	20.3	53 16.45	52 57.10	30 8.75	-1 32.65	-1.48	32 3.8
11	37	6.3	50	3	18.0	25.5	53 21.75	52 53.08	30 4.73	1 32.12	1.42	4.6
14	37	9.6	50	3	12.0	22.1	53 17.05	52 51.69	30 3.34	1 31.81	1.45	3.1
June 6	37	16.2	50	2	16.2	28.8	52 22.50	52 44.44	29 56.09	1 28.68	1.38	1.8
87 VIRGINIS. δ ₀ = - 17° 13' 4".6												
May 9	40	3.7	30	4	11.5	18.3	34 14.90	33 52.56	11 4.21	-1 38.93	-1.35	13 5.2
14	40	1.7	30	4	18.3	17.5	34 12.85	33 47.59	10 59.24	1 38.04	1.34	4.8
June 6	40	9.0	30	3	15.4	27.2	33 21.30	33 42.43	10 54.08	1 34.70	1.16	5.0
η URSÆ MAJORIS.* δ ₀ = + 49° 57' 10".0												
May 9	41	47.0	25	0	45.8	43.6	25 44.70	25 13.81	57 34.54	+0 7.75	+0.00	57 10.7
14	42	0.2	25	0	27.1	27.1	25 27.10	25 6.22	57 42.13	0 7.68	0.18	11.6
June 12	41	47.2	20	2	59.4	63.2	23 1.30	23 36.97	59 11.38	0 7.86	0.24	10.2
14	41	55.1	20	3	4.9	7.4	23 6.15	23 35.49	59 12.86	0 7.59	0.42	11.3
21	.....											.....
h CENTAURI. δ ₀ = - 31° 17' 40".1												
May 9	45	17.0	35	2	15.9	25.8	37 20.85	36 50.49	14 2.14	-3 15.80	-1.73	17 39.0
14	45	16.9	35	2	10.7	22.8	37 16.75	36 45.99	13 57.64	3 14.03	1.73	37.9
June 6	45	29.8	35	1	18.2	31.8	36 25.00	36 46.16	13 57.81	3 7.38	1.84	38.9
12	45	22.3	30	4	55.8	68.3	35 2.05	35 29.57	12 41.22	3 8.66	2.10	39.1
14	45	20.5	30	4	51.5	64.8	34 58.15	35 30.67	12 42.32	3 11.69	2.06	43.1
η BOOTIS.* δ ₀ = + 19° 2' 24".9												
June 17	48	12.7	15	2	22.4	30.1	17 26.25	17 56.67	4 51.68	-0 24.74	-0.68	2 25.9
21	48	17.5	15	4	56.4	65.1	20 0.85	20 25.29	2 23.06	0 24.92	0.99	24.9
25	48	45.8	20	0	35.6	40.3	20 37.95	20 25.92	2 22.43	0 24.51	0.81	24.6
26	48	19.0	15	4	59.0	66.2	20 2.60	20 25.47	2 22.88	0 23.85	0.98	24.2
29	48	17.8	15	4	56.4	62.2	19 59.30	20 24.66	2 23.69	0 24.12	0.99	25.0

Date. 1871.	Right Ascension Wires.											Seconds of transit over Mean Wire.	$n \tan \delta$ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
9 BOOTIS. $a_0 = 13^h 50^m 43^s.54$																
June 14	23.6	26.4	29.3	38.0	41.0	43.8	46.8	49.7	58.5	1.3	4.2	43.87	-0.23	-1.71	+1.62	50 43.55
17	23.8	26.7	29.8	38.5	41.4	44.3	47.2	50.0	58.7	1.6	4.6	44.24	0.26	2.13	1.65	43.50
21	30.6	32.9	35.3	40.0	42.3	44.5	46.9	49.2	53.9	56.2	58.5	44.57	0.27	2.50	1.69	43.49
25	30.9	33.2	35.5	40.3	42.5	44.8	47.3	49.5	54.1	56.5	58.7	44.85	0.24	2.84	1.74	43.51
26	30.9	33.3	35.5	40.2	42.5	44.8	47.1	49.5	54.2	56.5	58.8	44.85	0.24	2.92	1.75	43.44
50 CASSIOPEÆ L. C.* $a_0 = 1^h 52^m 32^s.90$																
June 21	...	...	...	14.6	21.0	27.6	34.2	41.0	...	...	...	27.68	+1.51	-2.50	+6.25	52 32.94
25	48.5	55.2	2.0	15.2	22.0	28.3	34.7	41.6	54.7	0.7	7.7	28.24	1.33	2.84	5.94	32.67
27	...	...	...	16.0	22.2	28.9	35.1	41.9	...	...	...	28.82	1.26	3.02	5.79	32.85
τ VIRGINIS.* $a_0 = 13^h 55^m 7^s.98$																
June 14	50.0	52.5	55.0	2.7	5.3	8.0	10.5	13.1	20.7	23.4	25.9	7.92	-0.03	-1.71	+1.95	55 8.13
21	56.4	58.4	0.5	4.6	6.6	8.6	10.7	12.8	16.8	18.9	20.9	8.66	0.03	2.50	1.99	8.12
25	56.6	58.7	0.7	4.7	6.7	8.8	10.9	13.0	17.0	19.1	21.2	8.85	0.03	2.84	2.03	8.01
27	56.8	58.8	0.8	4.9	7.0	9.0	11.0	13.0	17.2	19.3	21.4	9.02	0.03	3.02	2.04	8.01
θ CENTAURI. $a_0 = 13^h 59^m 9^s.49$																
June 14	46.6	49.9	53.0	2.4	5.7	8.8	12.0	15.1	24.8	27.9	31.0	8.84	+0.27	-1.71	+2.17	59 9.57
17	46.8	50.2	53.2	2.8	6.0	9.1	12.2	15.3	25.0	28.2	31.3	9.10	0.31	2.13	2.20	9.48
21	54.3	56.8	59.7	4.4	7.0	9.4	12.0	14.5	19.6	22.1	24.8	9.51	0.33	2.50	2.24	9.58
25	54.6	57.0	59.6	4.6	7.2	9.7	12.4	14.8	19.8	22.4	24.8	9.72	0.28	2.84	2.28	9.44
26	...	...	...	4.8	7.2	9.8	12.3	14.8	...	...	...	9.78	0.29	2.92	2.29	9.44
α DRACONIS.* $a_0 = 14^h 0^m 55^s.48$																
June 14	...	...	...	46.0	52.4	58.4	4.8	10.6	...	...	...	58.44	-0.89	-1.71	-0.38	0 55.46
17	...	...	...	46.9	53.1	58.9	5.0	11.0	...	...	...	58.98	1.01	2.13	-0.26	55.58
19	29.9	34.5	39.8	49.3	54.1	58.9	4.0	9.0	18.6	23.4	28.2	59.06	0.91	2.50	-0.20	55.45
21	29.7	34.8	39.7	49.6	54.3	59.0	4.0	9.0	18.6	23.2	28.1	59.09	1.06	2.50	-0.13	55.40
25	30.2	35.0	39.8	49.5	54.4	59.0	4.0	8.8	18.6	23.4	28.3	59.18	0.93	2.84	+0.22	55.63
δ BOOTIS.* $a_0 = 14^h 4^m 33^s.72$																
June 14	14.3	17.0	19.8	28.4	31.3	34.1	36.9	39.8	48.4	51.3	54.2	34.14	-0.21	-1.71	+1.56	4 33.78
17	14.5	17.4	20.1	28.7	31.5	34.4	37.3	40.2	48.7	51.7	54.5	34.45	0.23	2.13	1.58	33.67
19	21.1	23.4	25.7	30.2	32.5	34.7	37.1	39.3	43.8	46.2	48.4	34.76	0.21	2.50	1.60	33.65
21	21.1	23.4	25.7	30.2	32.5	34.8	37.1	39.5	44.0	46.3	48.5	34.83	0.25	2.50	1.62	33.70
25	21.3	23.7	26.6	30.5	32.8	35.1	37.5	39.4	44.1	46.4	48.7	35.10	0.22	2.84	1.66	33.70
14 BOOTIS. $a_0 = 14^h 7^m 55^s.92$																
June 14	37.5	40.0	42.8	50.8	53.4	56.2	58.7	1.4	9.2	11.9	14.4	56.03	-0.11	-1.71	+1.75	7 55.96
17	37.8	40.6	43.3	51.1	53.7	56.4	59.0	1.7	9.6	12.3	14.9	56.40	0.12	2.13	1.75	55.90
19	44.1	46.2	48.2	52.5	54.6	56.7	58.8	0.9	5.1	7.2	9.3	56.68	0.11	2.50	1.76	55.83
21	44.2	46.3	48.4	52.5	54.6	56.8	58.9	1.0	5.2	7.2	9.5	56.78	0.13	2.50	1.77	55.92
25	44.4	46.5	48.6	52.8	54.9	57.0	59.1	1.2	5.5	7.5	9.7	57.02	0.12	2.84	1.79	55.85

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			A.	C.								
9 BOOTIS. $\delta_0 = + 28^\circ 7' 13''.5$												
June 14	50 17.0	10 2	41.4	48.9	12 45.15	13 15.45	9 32.90	-0 14.58	-0.32	-100.48	-23.39	7 14.1
17	50 22.6	10 2	46.8	53.4	12 50.10	13 16.68	9 31.67	0 14.57	0.29	-98.92	23.78	15.1
21	50 22.4	15 0	12.9	19.9	15 16.40	15 43.47	7 4.88	0 14.68	0.65	+49.67	24.28	14.9
25	50 39.0	15 0	36.6	41.2	15 38.90	15 45.91	7 2.44	0 14.44	0.44	49.81	24.74	12.6
26	50 27.8	15 0	21.4	26.5	15 23.95	15 44.68	7 3.67	0 14.05	0.54	48.61	24.86	12.7
50 CASSIOPELÆ L. C.* $\delta_0 = + 108^\circ 11' 59''.3$												
June 21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
τ VIRGINIS.* $\delta_0 = + 2^\circ 9' 53''.0$												
June 14	54 45.7	5 4	36.9	48.8	9 42.85	10 11.18	12 37.17	-0 48.18	-0.83	-100.48	-15.74	9 51.9
21	54 50.8	10 2	8.9	20.2	12 14.55	12 39.28	10 9.07	0 48.79	1.20	+49.67	16.34	52.4
25	54 48.7	10 2	7.9	15.7	12 11.80	12 39.71	10 8.64	0 47.99	1.01	49.81	16.64	52.8
27	55 3.8	10 2	28.0	36.1	12 32.05	12 39.23	10 9.12	0 47.30	0.92	48.41	16.74	52.6
θ CENTAURI. $\delta_0 = - 35^\circ 44' 20''.7$												
June 14	58 40.4	0 0	24.3	36.9	0 30.60	01 00.04	38 11.69	-4 21.09	-2.05	-100.48	-5.48	44 20.8
17	58 42.6	0 0	28.7	39.8	0 34.25	01 1.72	38 13.37	4 22.57	2.07	-98.92	5.33	22.3
21	58 45.4	0 2	54.0	67.2	3 0.60	03 27.65	40 39.30	4 24.34	1.74	+49.67	5.10	20.8
25	58 42.9	0 2	56.3	67.7	3 2.00	03 32.08	40 43.73	4 20.02	1.42	49.81	4.95	20.3
26	59 32.2	0 3	58.0	66.2	4 2.10	3 36.96	40 48.61	4 13.30	1.24	48.61	4.93	19.5
α DRACONIS.* $\delta_0 = + 64^\circ 59' 17''.0$												
June 14	2 0.3	20 2	17.4	17.9	22 17.65	21 44.22	1 4.13	+0 23.75	+0.44	-100.48	-30.23	59 16.6
17	2 0.2	20 2	17.9	17.9	22 17.90	21 44.85	1 3.50	0 23.89	0.47	-98.92	30.73	18.2
19	0 28.1	20 4	6.7	8.7	24 7.70	24 25.83	58 22.52	0 23.65	1.33	+62.05	31.03	18.2
21	1 15.9	20 4	23.1	25.4	24 24.25	24 14.36	58 33.99	0 24.05	1.51	49.67	31.33	17.9
25	1 32.1	20 4	33.5	33.5	24 33.50	24 14.26	58 34.09	0 24.28	1.70	49.81	31.73	18.2
d BOOTIS.* $\delta_0 = + 25^\circ 41' 56''.2$												
June 14	4 9.5	35 2	59.3	67.2	38 3.25	38 31.56	44 16.79	-0 17.10	-0.37	-100.48	-22.02	41 56.8
17	4 6.5	35 2	58.8	64.8	38 1.80	38 34.03	44 14.32	0 17.20	0.40	-98.92	22.52	55.3
19	4 18.6	40 0	50.6	55.4	40 53.00	41 13.18	41 35.17	0 17.03	0.61	+62.05	22.72	56.9
21	4 14.4	40 0	31.0	38.0	40 34.50	40 59.92	41 48.43	0 17.31	0.68	49.67	23.02	57.1
25	4 25.8	40 0	47.8	53.0	40 50.40	41 1.99	41 46.36	0 17.03	0.51	49.81	23.42	55.2
14 BOOTIS. $\delta_0 = + 13^\circ 33' 39''.2$												
June 14	7 32.6	45 1	6.1	15.6	46 10.85	46 39.91	36 8.44	-0 31.38	-1.02	-100.48	-18.44	33 37.1
17	7 32.5	45 1	7.1	14.7	46 10.90	46 40.58	36 7.77	0 31.56	1.03	-98.92	18.77	37.5
19	7 42.0	45 3	56.7	65.2	49 0.95	49 19.20	33 29.15	0 31.25	0.56	+62.05	18.99	40.4
21	7 34.8	45 3	34.9	43.1	48 39.00	49 6.32	33 42.03	0 31.77	0.66	49.67	19.20	40.1
25	7 34.4	45 3	34.3	41.8	48 38.05	49 6.11	33 42.24	0 31.25	0.33	49.82	19.62	40.8

Date. 1871.	Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
June 14 17 19 21 25	a BOOTIS.* $a_0 = 14^h 9^m 49^s.39$															
	s. 30.6	s. 33.3	s. 35.9	s. 44.2	s. 46.9	s. 49.7	s. 52.5	s. 55.1	s. 3.4	s. 6.1	s. 8.9	s. 49.69	s. -0.16	s. -1.71	s. +1.59	m. 9 s. 49.41
	30.9	33.7	36.4	44.7	47.1	50.1	53.0	55.7	3.7	6.6	9.1	50.09	0.18	2.13	1.61	49.39
	37.3	39.6	41.8	46.0	48.2	50.5	52.6	54.7	59.1	1.3	3.5	50.42	0.16	2.50	1.63	49.39
	37.3	39.5	41.8	45.9	48.2	50.2	52.7	54.8	59.3	1.4	3.6	50.43	0.19	2.50	1.65	49.39
	37.7	39.7	42.0	46.3	48.5	50.8	52.9	55.1	59.5	1.7	3.9	50.74	0.17	2.84	1.68	49.41
June 14 17 19 21 25	λ VIRGINIS. $a_0 = 14^h 12^m 11^s.17$															
	...	...	...	5.8	8.2	10.7	13.6	16.3	...	...	...	10.92	+0.08	-1.71	+2.02	12 11.31
	...	...	...	6.0	8.6	11.2	13.8	16.3	...	...	...	11.18	0.09	2.13	2.03	11.17
	59.0	1.1	3.2	7.4	9.5	11.7	13.7	15.9	20.0	22.0	24.2	11.61	0.08	2.50	2.05	11.24
	59.0	1.1	3.2	7.3	9.5	11.6	13.7	15.9	20.1	22.1	24.4	11.63	0.09	2.50	2.06	11.28
	59.3	1.4	3.5	7.7	9.8	11.9	14.1	16.1	20.3	22.4	24.5	11.91	0.08	2.84	2.09	11.24
June 14 17 19 21 25	B. A. C. 4757. $a_0 = 14^h 14^m 39^s.63$															
	17.6	20.7	23.6	33.1	38.2	39.3	42.4	45.6	54.9	57.9	1.0	39.48	+0.25	-1.71	+2.12	14 40.14
	...	...	...	33.5	36.5	39.5	42.7	45.8	...	...	...	39.60	0.29	2.13	2.14	39.90
	...	...	...	35.0	37.4	39.9	42.4	44.9	...	...	...	39.92	0.26	2.50	2.16	39.84
	25.0	27.6	30.0	35.0	37.5	40.3	42.5	45.0	49.9	52.6	55.0	40.04	0.31	2.50	2.18	40.03
	...	...	...	35.2	37.7	40.2	42.7	45.2	...	...	...	40.20	0.27	2.84	2.22	39.85
June 14 19 21 25	2 LIRÆ. $a_0 = 14^h 16^m 32^s.46$															
	14.0	16.7	19.1	27.1	29.7	32.4	35.0	37.6	45.5	48.2	50.8	32.37	+0.06	-1.71	+1.99	16 32.71
	20.4	22.5	24.6	28.8	30.8	32.9	35.0	37.1	41.3	43.4	45.5	32.94	0.07	2.50	2.01	32.52
	20.4	22.5	24.6	28.9	31.0	33.1	35.1	37.2	41.4	43.5	45.5	33.02	0.08	2.50	2.02	32.62
	...	...	...	29.1	31.3	33.3	35.3	37.5	...	...	...	33.30	0.07	2.84	2.05	32.58
June 21 25 27 29	ι CASSIOPELÆ L. C.* $a_0 = 2^h 18^m 32^s.86$															
	56.9	2.0	7.4	17.7	22.8	28.6	33.5	38.8	49.1	54.3	59.6	28.24	+1.16	-2.50	+6.10	18 33.00
	...	...	...	...	...	28.7	33.6	39.4	49.8	54.9	59.9	28.65	1.02	2.84	5.85	32.68
	...	...	...	18.7	23.8	29.0	34.2	39.6	...	...	...	29.06	0.96	3.02	5.73	32.73
	58.6	3.3	8.9	19.5	24.7	29.6	35.0	40.3	50.6	55.7	1.0	29.74	0.99	3.55	5.61	32.79
June 19 21 25 27 July 3	θ BOOTIS.* $a_0 = 14^h 20^m 50^s.34$															
	32.8	36.0	39.3	46.1	49.4	52.8	56.2	59.6	6.4	9.7	13.0	52.84	-0.56	-2.50	+0.49	20 50.27
	32.7	36.0	39.4	46.1	49.6	52.9	56.3	59.7	6.3	9.7	13.1	52.89	0.65	2.50	0.53	50.27
	33.0	36.3	39.6	46.3	49.7	53.0	56.5	59.9	6.6	9.9	13.1	53.08	0.57	2.84	0.61	50.28
	33.0	36.4	39.9	46.5	49.9	53.4	56.7	59.9	6.7	10.2	13.5	53.28	0.54	3.02	0.66	50.38
	...	...	...	47.5	51.0	54.1	57.7	1.1	...	...	...	54.28	0.57	4.13	0.81	50.39
June 19 21 25 27 30	B. A. C. 4797. $a_0 = 14^h 22^m 58^s.44$															
	44.6	47.3	49.8	54.9	57.5	0.1	2.7	5.3	10.5	13.0	15.4	0.10	-0.32	-2.50	+1.18	22 58.46
	44.7	47.2	49.9	55.0	57.6	0.1	2.7	5.4	10.4	12.9	15.5	0.13	0.38	2.50	1.20	58.45
	45.0	47.5	50.1	55.1	57.7	0.3	2.9	5.4	10.6	13.0	15.5	0.28	0.33	2.84	1.25	58.36
	45.1	47.7	50.3	55.3	57.8	0.6	3.0	5.7	10.8	13.2	15.9	0.49	0.32	3.02	1.28	58.43
	45.7	48.4	51.0	56.1	58.7	1.2	3.8	6.3	11.3	13.9	16.5	1.17	0.32	3.65	1.32	58.52

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			A.	C.								
<i>α</i> BOOTIS.* $\delta_0 = +19^\circ 50' 59''.7$												
June 14	9 24.0	25 3	48.2	58.2	28 53.20	29 24.07	53 24.28	-0 23.66	-0.45	-100.48	-21.19	50 58.5
17	10 26.9	30 0	4.4	12.5	30 8.45	29 24.24	53 24.11	0 23.80	1.13	-98.92	21.69	58.6
19	9 28.8	30 1	35.2	42.9	32 39.05	32 7.14	50 41.21	0 23.57	0.74	+62.05	21.79	57.2
21	9 29.1	30 1	20.2	30.1	32 25.15	32 52.85	50 55.50	0 23.94	0.78	49.67	22.09	58.4
25	9 25.4	30 1	17.1	24.3	32 20.70	32 53.61	50 54.74	0 23.57	0.70	49.81	22.39	57.9
<i>λ</i> VIRGINIS. $\delta_0 = -12^\circ 46' 50''.1$												
June 14	12 33.5	5 1	49.4	59.1	6 54.25	6 26.10	43 37.75	-1 21.72	-1.60	-100.48	-11.00	46 52.5
17	11 52.4	5 0	58.7	67.2	6 2.95	6 26.37	43 38.02	1 22.24	1.75	-98.92	11.02	52.0
19	11 50.3	5 3	33.2	44.8	8 39.00	9 6.70	46 18.35	1 21.44	1.34	+62.05	11.06	50.1
21	11 52.8	5 3	22.6	35.0	8 28.80	8 53.25	46 4.90	1 22.74	1.38	49.67	11.11	50.5
25	11 52.0	5 3	23.8	34.0	8 28.90	8 54.78	46 6.43	1 21.42	1.06	49.81	11.24	50.3
B. A. C. 4757. $\delta_0 = -34^\circ 12' 1''.9$												
June 14	14 15.4	25 3	38.5	49.0	28 43.75	29 9.21	6 20.86	-3 53.53	-1.60	-100.48	-5.70	12 2.1
17	15 31.7	25 4	58.0	69.3	30 3.65	29 8.62	6 20.27	3 54.99	1.61	-98.92	5.52	1.3
19	15 0.8	30 2	8.7	20.2	32 14.45	31 50.55	9 2.20	3 52.72	1.86	+62.05	5.41	0.1
21	14 17.4	30 1	5.8	18.3	31 12.05	31 37.90	8 49.55	3 56.36	1.98	49.67	5.30	2.5
25	15 7.0	30 2	6.1	17.2	32 11.65	31 41.00	8 52.65	3 52.69	1.57	49.81	5.13	2.2
2 LIBRÆ. $\delta_0 = -11^\circ 7' 40''.7$												
June 14	16 12.5	25 1	51.0	62.8	26 56.90	27 17.92	4 30.43	-1 16.93	-1.58	-100.48	-11.31	7 40.7
19	16 13.2	25 4	28.5	39.8	29 34.15	30 0.87	7 12.52	1 16.66	1.17	+62.05	11.46	39.8
21	16 12.8	25 4	16.4	28.2	29 22.30	29 49.70	7 1.35	1 17.87	1.21	49.67	11.53	42.3
25	16 30.4	25 4	42.3	48.6	29 45.45	29 49.38	7 1.03	1 16.64	0.76	49.81	11.68	40.3
<i>ι</i> CASSIOPELÆ L. C.* $\delta_0 = +113^\circ 10' 30''.9$												
June 21	18 21.6	15 0	28.8	24.3	15 26.55	15 22.95	7 25.40	+2 43.98	+2.29	+49.67	-30.18	11 31.2
25	19 20.2	10 4	56.0	53.2	14 54.60	15 22.71	7 25.64	2 41.41	2.88	49.81	30.28	29.5
27	18 35.5	15 0	16.5	11.8	15 14.15	15 17.64	7 30.71	2 39.04	2.28	48.41	30.38	30.1
29	17 45.7	15 0	45.0	40.8	15 42.90	15 18.93	7 29.42	2 39.08	2.02	49.10	30.38	29.2
<i>θ</i> BOOTIS.* $\delta_0 = +52^\circ 26' 34''.7$												
June 19	20 14.0	55 1	23.7	25.9	56 24.80	56 57.50	25 50.85	+0 10.09	+0.21	+62.05	-27.81	26 35.4
21	20 17.5	55 1	13.5	15.2	56 14.35	56 44.18	26 4.17	0 10.25	0.25	49.67	28.21	36.1
25	20 27.7	55 1	23.2	23.9	56 23.55	56 44.95	26 3.40	0 10.09	0.57	49.81	28.91	35.0
27	20 42.2	55 1	33.3	34.6	56 33.95	56 43.30	26 5.05	0 9.94	0.73	48.41	29.01	35.1
July 3	21 25.3	55 2	7.8	7.5	57 7.65	56 41.53	26 6.82	0 9.88	0.64	48.69	29.91	36.1
B. A. C. 4797. $\delta_0 = +36^\circ 46' 14''.6$												
June 19	22 31.6	35 1	32.6	38.2	36 35.40	37 6.96	45 41.39	-0 5.59	-0.20	+62.05	-24.15	46 13.5
21	22 38.7	35 1	26.5	34.2	36 30.35	36 54.05	45 54.30	0 5.67	0.12	49.67	24.47	13.7
25	22 35.8	35 1	24.7	30.0	36 27.35	36 54.49	45 53.86	0 5.48	0.03	49.81	25.05	13.1
27	22 52.8	35 1	41.2	46.0	36 43.60	36 52.13	45 56.22	0 5.50	+0.15	48.41	25.35	13.9
30	22 40.9	35 1	27.9	32.0	36 29.95	36 52.43	45 55.92	0 5.57	0.03	49.02	25.74	13.7

Date.		Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
1871.		1	2	3	4	5	6	7	8	9	10	11						
		ρ BOOTIS.* $a_0 = 14^h 26^m 18^s.80$																
June	19	^{s.} 5.9	^{s.} 8.3	^{s.} 10.8	^{s.} 15.5	^{s.} 17.8	^{s.} 20.2	^{s.} 22.7	^{s.} 25.1	^{s.} 29.9	^{s.} 32.1	^{s.} 34.6	^{s.} 20.26	^{s.} -0.26	^{s.} -2.50	^{s.} +1.32	^{m.} 26	^{s.} 18.82
	21	5.9	8.3	10.8	15.3	17.8	20.3	22.7	25.0	29.8	32.2	34.6	20.24	0.31	2.50	1.34		18.77
	25	...	...	...	15.7	18.2	20.5	23.1	25.4	...	...	...	20.58	0.27	2.84	1.38		18.85
July	1	7.0	9.5	11.8	16.6	19.1	21.4	23.8	26.3	31.0	33.4	35.8	21.43	0.26	3.82	1.45		18.80
	3	7.4	9.8	12.2	17.0	19.3	21.6	24.2	26.6	31.3	33.8	36.2	21.76	0.27	4.14	1.49		18.84
		γ BOOTIS.* $a_0 = 14^h 26^m 55^s.47$																
June	25	41.6	44.3	46.9	52.1	54.8	57.6	0.1	2.7	8.0	10.7	13.2	57.45	-0.36	-2.84	+1.13	26	55.38
	27	41.8	44.5	47.1	52.2	55.0	57.6	0.3	2.9	8.2	10.8	13.3	57.61	0.34	3.02	1.16		55.41
	30	42.2	44.9	47.6	52.9	55.6	58.1	0.7	3.5	8.8	11.3	14.0	58.15	0.34	3.65	1.20		55.36
July	9	46.1	48.6	51.3	56.6	59.2	1.8	4.5	7.1	12.4	15.0	17.7	1.84	0.47	7.38	1.36		55.35
	12	47.8	50.4	53.0	58.3	0.9	3.6	6.1	8.9	14.1	16.7	19.4	3.56	0.45	9.12	1.41		55.40
		5 URSÆ MINORIS. $a_0 = 14^h 27^m 49^s.40$																
July	1	...	...	...	40.3	49.1	57.6	6.2	15.3	...	...	...	57.70	-1.73	-3.82	-2.77	27	49.38
	3	...	...	...	40.5	49.3	57.9	6.3	15.5	...	...	...	57.90	1.78	4.14	2.62		49.36
	7	8.5	16.8	25.7	43.2	51.8	0.3	8.9	17.8	35.0	43.6	52.4	0.36	2.10	6.35	2.30		49.61
	9	...	...	...	43.8	52.4	1.0	9.8	18.7	...	...	...	1.14	2.33	7.38	2.14		49.29
		PI. XIV. 135. $a_0 = 14^h 32^m 13^s.50$																
June	19	0.4	2.7	5.0	9.5	11.8	14.0	16.3	18.7	23.1	25.5	27.7	14.06	+0.18	-2.50	+2.07	32	13.81
	21	0.4	2.5	5.0	9.4	11.8	14.0	16.4	18.7	23.4	25.5	27.7	14.07	0.22	2.50	2.09		13.88
	25	0.5	2.8	5.1	9.9	12.1	14.3	16.7	18.8	23.5	25.8	28.1	14.33	0.19	2.84	2.11		13.79
	26	0.5	2.9	5.1	9.7	12.0	14.2	16.6	18.9	23.2	25.7	27.9	14.25	0.19	2.92	2.12		13.64
	27	0.9	3.0	5.3	9.8	12.2	14.4	16.7	19.0	23.5	25.8	28.0	14.42	0.18	3.02	2.13		13.71
		π BOOTIS pr.* $a_0 = 14^h 34^m 42^s.63$																
June	19	31.0	33.0	35.2	39.5	41.7	43.9	45.9	48.1	52.3	54.4	56.7	43.79	-0.14	-2.50	+1.57	34	42.72
	21	30.9	33.1	35.2	39.4	41.8	43.9	46.0	48.1	52.3	54.5	56.7	43.81	0.16	2.50	1.58		42.73
	25	31.3	33.4	35.6	39.8	42.0	44.0	46.2	48.3	52.6	54.8	56.9	44.08	0.14	2.84	1.61		42.71
	27	31.3	33.6	35.6	39.9	42.1	44.3	46.4	48.6	52.8	54.9	57.1	44.24	0.13	3.03	1.62		42.70
July	1	32.2	34.3	36.4	40.7	42.8	44.9	47.1	49.4	53.7	55.8	58.0	45.03	0.14	3.83	1.66		42.72
		ζ BOOTIS med.* $a_0 = 14^h 35^m 2^s.20$																
June	26	51.0	53.1	55.2	59.3	1.5	3.7	5.8	7.9	12.0	14.1	16.3	3.63	-0.12	-2.92	+1.66	35	2.25
	30	51.7	53.6	56.0	0.1	2.3	4.4	6.5	8.6	12.8	14.9	17.0	4.36	0.12	3.65	1.69		2.28
July	3	52.2	54.3	56.3	0.5	2.7	4.7	6.9	9.1	13.2	15.3	17.5	4.79	0.12	4.14	1.71		2.24
	7	54.5	56.5	58.6	2.8	4.8	7.0	9.1	11.2	15.4	17.5	19.7	7.01	0.14	6.35	1.75		2.27
		ϵ BOOTIS seq. $a_0 = 14^h 39^m 23^s.83$																
June	19	11.3	13.7	16.0	20.7	22.9	25.2	27.5	29.8	34.6	36.9	39.1	25.24	-0.23	-2.50	+1.30	39	23.81
	21	11.3	13.8	16.1	20.7	23.0	25.2	27.7	30.0	34.5	36.8	39.1	25.29	0.27	2.50	1.32		23.84
	27	11.8	14.2	16.5	21.0	23.4	25.6	28.0	30.3	35.0	37.3	39.6	25.70	0.22	3.02	1.37		23.83
	30	12.4	14.6	17.0	21.4	24.0	26.4	28.6	30.7	35.4	37.7	40.2	26.22	0.23	3.65	1.40		23.74
July	3	12.8	15.1	17.5	22.1	24.5	26.8	29.3	31.5	36.0	38.4	40.8	26.80	0.24	4.14	1.43		23.85

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			A.	C.								
ρ BOOTIS.* $\delta_0 = + 30^\circ 56' 4''.2$												
June 19	26 48.6	25 2	42.8	49.0	27 45.90	27 12.34	55 36.05	-0 11.52	-0.26	+62.05	-22.45	56 3.9
21	25 56.4	25 1	27.2	35.1	26 31.15	26 59.38	55 48.97	0 11.69	0.38	49.67	22.75	3.8
26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
July 1	26 5.1	25 1	37.1	43.8	26 40.45	26 59.78	55 48.57	0 11.34	0.13	49.97	24.05	3.0
3	25 47.8	25 1	15.4	19.0	26 17.20	26 57.53	55 50.82	0 11.48	0.42	48.69	24.15	3.5
γ BOOTIS.* $\delta_0 = + 38^\circ 52' 8''.4$												
June 25	26 29.1	30 0	26.9	30.1	30 28.50	30 59.08	51 49.27	-0 3.49	-0.25	+49.81	-25.23	52 10.1
27	27 15.8	30 1	17.2	19.9	31 18.55	30 58.96	51 49.39	0 3.44	0.01	48.41	25.43	8.9
30	26 36.5	30 0	33.9	36.5	30 35.20	30 58.45	51 49.90	0 3.48	0.13	49.02	25.83	9.5
July 9	26 41.6	30 0	34.5	35.0	30 34.75	30 56.50	51 51.85	0 3.33	0.14	47.25	26.83	8.8
12	26 41.1	30 0	32.7	34.1	30 33.40	30 57.62	51 50.73	0 3.35	0.16	49.09	27.13	9.2
5 URSÆ MINORIS. $\delta_0 = + 76^\circ 15' 52''.5$												
July 1	28 45.2	5 3	10.1	11.2	8 10.65	7 55.08	14 53.27	+0 38.67	+1.78	+49.97	-31.45	15 52.2
3	27 53.5	5 2	50.7	47.8	7 49.25	7 50.69	14 57.66	0 37.45	1.99	48.69	31.65	54.1
7	26 51.3	5 2	26.2	22.9	7 24.55	7 47.17	15 1.18	0 36.82	1.84	49.08	32.05	56.9
9	28 40.6	5 3	2.1	59.3	8 0.70	7 47.75	15 0.60	0 36.41	1.77	47.25	32.15	53.9
Pl. XIV. 135. $\delta_0 = - 26^\circ 10' 12''.0$												
June 19	31 50.3	30 0	50.6	62.2	30 56.40	31 25.94	8 37.59	-2 23.56	-1.95	+62.05	-7.09	10 8.1
21	31 49.4	30 0	34.7	48.3	30 41.50	31 12.16	8 23.81	2 25.66	1.97	49.67	7.03	8.8
25	31 53.2	30 0	41.7	52.0	30 46.85	31 13.04	8 24.69	2 23.44	1.93	49.81	6.93	7.2
26	31 57.5	30 0	48.2	59.3	30 53.75	31 14.47	8 26.12	2 20.07	1.92	48.61	6.92	6.4
27	32 3.3	30 0	56.0	66.1	31 1.05	31 14.82	8 26.47	2 21.30	1.93	48.41	6.90	8.2
π BOOTIS pr.* $\delta_0 = + 16^\circ 58' 5''.4$												
June 19	34 22.9	20 4	26.5	36.0	24 31.25	24 58.89	57 49.46	-0 27.05	-0.39	+62.05	-18.46	58 5.6
21	34 20.2	20 4	8.9	20.6	24 14.75	24 45.96	58 2.39	0 27.44	0.46	49.67	18.76	5.4
25	34 24.8	20 4	15.2	24.9	24 20.05	24 45.57	58 2.78	0 27.01	0.03	49.81	19.16	6.4
27	34 32.6	20 4	26.3	33.9	24 30.10	24 45.44	58 2.91	0 27.23	+0.05	48.41	19.36	4.8
July 1	34 27.5	20 4	18.2	23.9	24 21.05	24 44.19	58 4.16	0 27.38	-0.01	49.97	19.76	7.0
ζ BOOTIS med.* $\delta_0 = + 14^\circ 16' 42''.7$												
June 26	34 50.2	5 0	44.0	50.2	5 47.10	6 5.06	16 43.29	-0 28.98	-0.94	+48.61	-18.55	16 43.4
30	34 48.4	5 0	41.2	47.3	5 44.25	6 5.56	16 42.79	0 30.30	0.96	49.02	18.95	41.6
July 3	34 42.0	5 0	31.9	37.9	5 34.90	6 5.45	16 42.90	0 29.73	1.05	48.69	19.25	41.6
7	34 49.7	5 0	38.9	42.2	5 40.55	6 3.68	16 44.67	0 29.28	1.01	49.08	19.65	43.8
ϵ BOOTIS seq. $\delta_0 = + 27^\circ 36' 54''.3$												
June 19	39 4.0	45 0	51.8	59.0	45 55.40	46 21.38	36 26.97	-0 15.01	-0.57	+62.05	-20.80	36 52.6
21	39 42.5	45 1	25.1	33.0	46 29.05	46 7.98	36 40.37	0 15.22	0.45	49.67	21.10	53.3
27	39 7.3	45 0	40.8	46.2	45 43.50	46 6.04	36 42.31	0 14.76	0.51	48.41	21.90	53.5
30	39 15.7	45 0	50.0	55.1	45 52.55	46 5.41	36 42.94	0 14.96	0.42	49.02	22.30	54.3
July 3	39 2.5	45 0	33.9	38.3	45 36.10	46 5.87	36 42.48	0 14.70	0.59	48.69	22.50	53.4

Date. 1871.	Right Ascension Wires.											Seconds of transit over Mean Wire.	$n \tan \delta$ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
109 VIRGINIS.* $a_0 = 14^h 39^m 46^s.73$																
June 25	35.6	37.6	39.6	43.6	45.8	47.9	50.0	52.0	56.0	58.0	0.1	47.84	-0.03	-2.84	+1.79	39 46.76
26	35.6	37.6	3.6	43.9	45.9	47.9	50.0	52.1	56.2	58.2	0.2	47.93	0.03	2.92	1.80	46.78
July 1	36.4	38.6	40.5	44.6	46.8	48.8	51.0	53.1	57.0	59.0	1.1	48.81	0.03	3.83	1.83	46.78
7	38.9	41.0	43.1	47.1	49.2	51.2	53.4	55.3	59.4	1.5	3.6	51.24	0.03	6.35	1.89	46.75
10	40.8	42.8	45.0	49.0	51.1	53.1	55.2	57.2	1.4	3.4	5.5	53.14	0.04	8.19	1.91	46.82
α^2 LIBRÆ. $a_0 = 14^h 43^m 48^s.01$																
June 19	35.8	37.8	40.0	44.3	46.4	48.6	50.7	52.8	57.0	59.2	1.3	48.54	+0.10	-2.50	+1.95	43 48.09
25	36.1	38.2	40.3	44.5	46.7	48.8	51.0	53.1	57.3	59.5	1.6	48.83	0.10	2.84	1.97	48.06
26	36.1	38.2	40.3	44.5	46.7	48.9	50.9	53.2	57.3	59.5	1.6	48.84	0.10	2.92	1.98	48.00
27	36.2	38.3	40.5	44.7	46.8	48.9	51.1	53.2	57.5	59.6	1.8	48.96	0.09	3.03	1.99	48.01
30	36.9	39.1	40.8	45.4	47.5	49.5	51.6	53.6	58.1	0.2	2.3	49.55	0.10	3.65	2.01	48.01
ξ BOOTIS * seq.? $a_0 = 14^h 45^m 29^s.12$																
June 25	17.6	19.7	21.8	26.3	28.5	30.6	32.9	35.0	39.3	41.6	43.8	30.65	-0.17	-2.84	+1.49	45 29.13
26	17.8	19.9	22.1	26.3	28.5	30.8	33.1	35.1	39.5	41.6	43.8	30.77	0.17	2.92	1.50	29.18
30	...	...	...	26.9	...	31.4	33.5	35.7	...	...	...	31.32	0.16	3.65	1.53	29.04
July 1	18.3	20.8	23.0	27.1	29.5	31.6	33.8	35.9	40.4	42.6	44.7	31.61	0.16	3.83	1.54	29.16
3	18.8	20.9	23.1	27.5	29.7	31.8	33.9	36.2	40.7	42.8	44.9	31.85	0.17	4.14	1.56	29.10
GROOM. 2164.* $a_0 = 14^h 48^m 11^s.53$																
June 26	51.2	55.2	59.3	7.4	11.6	15.7	19.8	23.9	32.0	36.1	40.2	15.67	-0.76	-2.92	-0.28	48 11.71
27	51.0	55.2	59.4	7.4	11.5	15.4	19.7	23.8	33.8	35.9	40.0	15.55	0.71	3.03	0.26	11.55
30	...	...	...	8.6	12.2	16.2	20.4	24.3	...	...	...	16.34	0.72	3.65	0.19	11.78
July 1	51.9	55.9	0.0	8.1	12.2	16.4	20.4	24.7	32.8	36.6	40.9	16.35	0.73	3.83	0.16	11.63
3	52.1	56.2	0.4	8.6	12.5	16.5	20.5	24.7	32.8	37.1	41.2	16.60	0.76	4.14	0.11	11.59
β URSÆ MINORIS.* $a_0 = 14^h 51^m 6^s.06$																
June 25	27.1	35.4	43.0	58.1	6.0	14.2	21.6	29.6	45.2	52.8	0.8	13.98	-1.59	-2.84	-3.38	51 6.17
26	27.8	35.1	43.0	58.0	5.9	14.0	21.5	29.6	45.2	52.7	0.5	13.94	1.60	2.92	3.32	6.10
27	27.7	35.1	43.0	58.5	6.3	14.0	21.9	29.7	45.3	52.9	0.9	14.12	1.51	3.03	3.25	6.33
July 1	...	...	...	...	7.0	14.4	22.3	30.1	...	...	...	14.60	1.55	3.83	3.00	6.22
3	28.6	35.8	43.8	59.4	7.1	14.5	22.5	30.4	45.7	53.3	1.4	14.77	1.60	4.14	2.86	6.17
δ LIBRÆ. $a_0 = 14^h 54^m 8^s.15$																
June 25	56.7	58.8	0.9	...	...	...	...	...	17.3	19.4	21.5	9.08	+0.04	-2.84	+1.86	54 8.14
26	57.1	58.9	0.9	5.1	7.1	9.2	11.4	13.4	17.5	19.6	21.7	9.26	0.04	2.92	1.86	8.24
27	56.9	58.9	1.0	5.1	7.1	9.2	11.4	13.4	17.6	19.7	21.6	9.26	0.04	3.03	1.87	8.14
30	57.5	59.5	1.5	5.7	7.8	9.9	11.9	14.0	18.1	20.1	22.3	9.84	0.04	3.65	1.89	8.12
July 1	57.6	59.8	1.9	6.0	8.0	10.1	12.1	14.2	18.3	20.4	22.5	10.08	0.04	3.83	1.89	8.18
β BOOTIS.* $a_0 = 14^h 57^m 7^s.46$																
June 26	53.7	56.4	59.1	4.5	7.3	10.0	12.8	15.5	20.9	23.6	26.2	10.00	-0.39	-2.92	+0.81	57 7.50
27	53.8	56.5	59.2	4.7	7.4	10.1	12.7	15.6	20.9	23.6	26.4	10.08	0.37	3.03	0.82	7.50
30	54.6	57.2	59.8	5.4	8.1	10.7	13.3	16.1	21.5	24.4	26.9	10.73	0.37	3.65	0.86	7.57
July 1	54.4	57.1	59.8	5.4	7.9	10.7	13.4	16.2	21.7	24.3	27.0	10.72	0.38	3.83	0.87	7.38
3	54.7	57.5	0.0	5.4	8.4	11.1	13.8	16.7	21.8	24.6	27.4	11.04	0.39	4.15	0.90	7.40

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.							
			A.	C.															
109 VIRGINIS.* $\delta_0 = + 2^\circ 26' 0''.9$																			
June 25	m. 39	s. 27.9	55	1	3.8	13.2	55	8.50	55	35.99	26	12.36	-0	47.59	-1.50	+49.81	-14.80	25	58.3
26	39	31.9	55	1	7.9	18.2	56	13.05	56	35.15	26	13.20	0	46.51	1.24	48.61	14.90		59.2
July 1	39	32.4	55	1	6.7	16.1	56	11.40	56	34.06	26	14.29	0	48.21	1.24	49.97	15.30		59.5
7	39	35.2	55	1	10.0	16.5	56	13.25	56	35.35	26	13.00	0	45.94	1.27	49.08	15.80		59.1
10	39	38.4	55	1	9.2	16.3	56	12.75	56	33.06	26	15.29	0	46.59	1.26	47.80	15.90		59.3
α^2 LIBRÆ. $\delta_0 = - 15^\circ 30' 28''.9$																			
June 19	43	24.3	50	2	2.2	14.0	52	8.10	52	40.35	29	52.00	-1	30.45	-1.61	+62.05	-9.50	30	31.5
25	43	29.7	50	1	56.2	67.9	52	2.05	52	27.51	29	39.16	1	30.33	1.47	49.81	9.60		30.7
26	43	30.4	50	1	57.8	70.1	52	3.95	52	28.61	29	40.26	1	28.27	1.48	48.61	9.70		31.1
27	43	32.1	50	2	0.2	10.8	52	5.50	52	28.02	29	39.67	1	28.93	1.47	48.41	9.70		31.4
30	43	36.6	50	2	3.3	15.7	52	9.50	52	26.83	29	38.48	1	30.18	1.38	49.02	9.70		30.7
ξ BOOTIS * seq. ? $\delta_0 = + 19^\circ 38' 0''.8$																			
June 25	45	13.0	40	4	28.1	37.7	44	32.90	44	55.85	37	52.50	-0	23.85	+0.12	+49.81	-19.20	37	59.4
26	45	15.4	40	4	30.5	40.8	44	35.65	44	55.73	37	52.62	0	23.32	0.14	48.61	19.34		58.7
30	45	59.2	45	0	26.3	35.7	45	31.00	44	54.75	37	53.60	0	23.82	-0.94	49.02	19.83		58.0
July 1	45	11.7	40	4	24.5	34.6	44	29.55	44	55.49	37	52.86	0	24.16	+0.09	49.97	19.95		58.8
3	45	12.3	40	4	26.7	33.3	44	30.00	44	55.42	37	52.93	0	23.40	0.09	48.69	20.18		58.1
GROOM. 2164.* $\delta_0 = + 59^\circ 48' 54''.1$																			
June 26	47	40.4	30	4	8.7	11.3	34	10.00	34	34.53	48	13.82	+0	17.47	+1.40	+48.61	-27.42	48	53.9
27	47	51.3	30	4	17.8	19.3	34	18.55	34	35.44	48	12.91	0	17.59	1.58	48.41	27.52		53.0
30	48	58.2	35	0	3.0	4.2	35	3.60	34	34.49	48	13.86	0	17.85	0.28	49.02	28.02		53.0
July 1	47	33.3	30	4	4.2	8.1	34	6.15	34	36.10	48	12.25	0	18.00	1.23	49.97	28.22		53.2
3	47	53.1	30	4	17.8	19.2	34	18.50	34	34.83	48	13.52	0	17.52	1.59	48.69	28.42		52.9
β URSÆ MINORIS.* $\delta_0 = + 74^\circ 40' 42''.1$																			
June 25	50	0.8	40	2	37.4	37.0	42	37.20	43	3.88	39	44.47	+0	35.94	+1.14	+49.81	-28.46	40	42.9
26	50	8.0	40	2	38.2	37.3	42	37.75	43	1.77	39	46.58	0	35.17	1.27	48.61	28.66		43.0
27	50	24.8	40	2	46.4	45.1	42	45.75	43	3.72	39	44.63	0	35.39	1.59	48.41	28.76		41.3
July 1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
3	50	17.6	40	2	41.2	38.0	42	39.60	43	0.45	39	47.90	0	35.26	1.44	48.69	29.56		43.7
δ LIBRÆ. $\delta_0 = - 8^\circ 0' 33''.7$																			
June 25	53	43.7	20	2	12.0	22.0	22	17.00	22	51.78	0	3.43	-1	8.58	-1.23	+49.81	-11.22	0	34.6
26	53	57.4	20	2	30.2	40.6	22	35.40	22	51.69	0	3.34	1	7.10	1.20	48.61	11.27		34.3
27	53	57.1	20	2	28.3	39.3	22	33.80	22	50.37	0	2.02	1	7.53	1.21	48.41	11.32		33.7
30	53	49.2	20	2	18.0	27.8	22	22.90	22	51.11	0	2.76	1	8.55	1.24	49.02	11.46		35.0
July 1	53	54.5	20	2	25.0	34.9	22	29.95	22	51.17	0	2.82	1	9.47	1.21	49.97	11.51		35.0
β BOOTIS.* $\delta_0 = + 40^\circ 53' 46''.9$																			
June 26	56	48.5	25	3	59.8	63.8	29	1.80	29	24.26	53	24.09	-0	1.44	+0.78	+48.61	-23.42	53	48.6
27	56	48.5	25	4	0.3	4.5	29	2.40	29	24.96	53	23.39	0	1.45	0.78	48.41	23.62		47.5
30	56	45.4	25	3	56.8	59.0	28	57.90	29	24.33	53	24.02	0	1.47	0.72	49.02	24.12		48.2
July 1	56	49.0	25	4	0.4	4.7	29	2.55	29	25.22	53	23.13	0	1.49	0.77	49.97	24.32		48.1
3	56	49.2	25	3	58.7	61.3	29	0.00	29	22.77	53	25.58	0	1.45	0.77	48.69	24.62		49.0

Date. 1871.		Right Ascension Wires.										Seconds of Transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red to 1872.0.	Mean Right Ascension for 1872.0.	
		1	2	3	4	5	6	7	8	9	10						11
		ψ BOOTIS.* $a_0 = 14^h 58^m 57^s.67$															
June	26	45.8	48.1	50.5	54.9	57.3	59.5	2.0	4.3	8.9	11.3	13.4	59.64	-0.24	-2.92	+1.22	58 57.70
	27	45.8	48.2	50.5	54.9	57.4	59.6	2.1	4.5	8.9	11.2	13.6	59.70	0.22	3.03	1.23	57.68
July	1	46.6	48.9	51.3	55.8	58.1	0.3	2.8	5.1	9.7	12.1	14.3	0.45	0.23	3.83	1.27	57.66
	3	46.7	49.0	51.5	56.0	58.3	0.7	2.9	5.4	9.9	12.2	14.6	0.65	0.24	4.15	1.29	57.55
	7	49.1	51.5	53.8	58.3	0.6	3.0	5.3	7.6	12.2	14.5	16.8	2.97	0.28	6.36	1.33	57.66
		ϵ BOOTIS. $a_0 = 15^h 1^m 40^s.84$															
June	25	28.9	31.2	33.5	38.1	40.3	42.6	44.9	47.1	51.6	53.9	56.2	42.57	-0.21	-2.84	+1.25	1 40.77
	26	29.0	31.4	33.7	38.1	40.4	42.7	45.0	47.1	51.7	54.0	56.2	42.66	0.21	2.92	1.26	40.79
	27	29.1	31.5	33.7	38.2	40.5	42.7	45.0	47.3	51.9	54.0	56.4	42.75	0.20	3.03	1.27	40.79
July	1	29.8	32.1	34.4	38.7	41.2	43.6	45.8	48.0	52.5	54.9	57.1	43.46	0.21	3.83	1.30	40.72
	3	30.1	32.3	34.5	39.3	41.5	43.6	46.0	48.3	52.9	55.1	57.5	43.74	0.22	4.15	1.32	40.69
		ι LIBRÆ. $a_0 = 15^h 4^m 55^s.73$															
June	25	...	...	...	52.3	54.3	56.4	58.6	60.9	...	...	...	56.50	+0.13	-2.84	+1.94	4 55.73
	26	43.4	45.7	48.0	52.3	54.4	56.5	58.8	1.0	5.2	7.4	9.5	56.56	0.13	2.92	1.94	55.71
	27	43.6	45.8	48.0	52.2	54.4	56.7	58.9	1.0	5.3	7.5	9.6	56.64	0.12	3.03	1.95	55.68
July	1	44.4	46.6	48.8	53.1	55.3	57.6	59.8	1.9	6.1	8.2	10.5	57.48	0.13	3.83	1.97	55.75
	3	...	...	...	53.5	55.5	57.8	59.9	1.9	...	...	...	57.72	0.13	4.15	1.98	55.68
		B. A. C. 5009. $a_0 = 15^h 6^m 47^s.09$															
July	7	36.7	39.5	41.6	46.3	48.7	51.0	53.4	55.9	0.5	3.0	5.4	51.09	+0.28	-6.36	+2.12	6 47.13
	8	37.3	39.7	42.0	46.9	49.3	51.8	54.2	56.6	1.4	3.6	6.0	51.71	0.28	6.92	2.13	47.20
	12	39.4	41.8	44.2	49.0	51.4	53.8	56.4	58.6	3.4	5.7	8.3	53.82	0.30	9.13	2.17	47.16
	13	...	...	...	49.4	51.9	54.2	56.8	59.2	...	...	...	54.30	0.35	9.61	2.18	47.22
		β LIBRÆ.* $a_0 = 15^h 10^m 7^s.27$															
July	7	59.1	1.3	3.4	7.5	9.5	11.6	13.7	15.8	19.9	22.0	24.1	11.63	+0.06	-6.36	+1.86	10 7.19
	8	59.8	2.0	4.0	8.1	10.2	12.3	14.4	16.5	20.5	22.6	24.7	12.28	0.06	6.92	1.86	7.28
	12	2.0	4.0	6.1	10.2	12.3	14.4	16.6	18.7	22.7	24.7	26.8	14.41	0.07	9.13	1.90	7.25
	13	2.5	4.4	6.6	10.6	12.7	14.9	16.9	19.0	23.1	25.2	27.1	14.82	0.08	9.61	1.91	7.20
		δ BOOTIS pr.* $a_0 = 15^h 10^m 20^s.59$															
July	9	12.4	14.9	17.3	22.3	24.7	27.1	29.8	32.2	37.1	39.6	42.0	27.22	-0.39	-7.40	+1.11	10 20.54
	10	13.1	15.6	18.1	23.0	25.5	28.0	30.5	32.8	37.8	40.3	42.8	27.96	0.35	8.20	1.12	20.53
	20	17.5	19.8	22.4	27.4	29.8	32.3	34.8	37.2	42.1	44.7	47.1	32.28	0.34	12.67	1.26	20.53
	23	18.1	20.6	23.0	28.0	30.5	33.0	35.4	37.9	42.8	45.3	47.8	32.95	0.35	13.36	1.31	20.55
		ϵ LIBRÆ. $a_0 = 15^h 17^m 15^s.74$															
July	7	...	...	...	16.0	18.3	20.2	22.3	24.2	...	...	...	20.20	+0.07	-6.33	+1.86	17 15.77
	8	8.5	10.6	12.6	16.7	18.6	20.8	22.8	24.9	29.1	31.3	33.2	20.83	0.07	6.92	1.86	15.84
	10	9.5	11.5	13.7	17.9	19.9	22.0	24.1	26.2	30.5	32.4	34.6	22.03	0.07	8.20	1.88	15.78
	12	10.4	12.4	14.5	18.7	20.8	22.8	25.0	27.1	31.2	33.3	35.4	22.87	0.07	9.13	1.89	15.70
	13	10.8	12.9	15.0	19.2	21.3	23.4	25.4	27.4	31.6	33.7	35.9	23.33	0.09	9.61	1.90	15.70

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			A.	C.								
ψ BOOTIS.* $\delta_0 = + 27^\circ 26' 52''.1$												
June 26	m. 58 40.6	s. 55 0	42.8	50.2	55 46.50	56 9.81	26 38.54	-0 14.85	-0.52	+48.61	-20.46	26 51.3
27	58 39.1	55 0	40.6	45.1	55 42.85	56 8.12	26 40.23	0 14.94	0.53	48.41	20.56	52.6
July 1	58 43.7	55 0	46.7	51.0	55 48.85	56 9.34	26 39.01	0 15.37	0.49	49.97	21.16	52.0
3	58 45.2	55 0	49.6	52.7	55 51.15	56 10.04	26 38.31	0 14.89	0.47	48.69	21.46	50.2
7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
ϵ BOOTIS. $\delta_0 = + 25^\circ 22' 7''.4$												
June 25	1 23.3	0 0	25.0	31.2	0 28.10	0 52.20	21 56.15	-0 17.41	-0.66	+49.81	-19.47	22 8.4
26	1 26.5	0 0	28.8	36.8	0 32.80	0 53.04	21 55.31	0 17.04	0.61	48.61	19.62	6.7
27	1 28.1	0 0	30.0	35.0	0 32.50	0 50.73	21 57.62	0 17.14	0.61	48.41	19.77	8.5
July 1	1 24.4	0 0	24.0	31.5	0 27.75	0 51.61	21 56.74	0 17.64	0.66	49.97	20.34	8.1
3	1 20.0	0 0	20.1	24.2	0 22.15	0 51.63	21 56.72	0 17.08	0.71	48.69	20.60	7.0
ι LIBRÆ. $\delta_0 = - 19^\circ 18' 19''.7$												
June 25	5 16.3	40 0	25.0	34.8	40 29.90	40 4.06	17 15.71	-1 45.13	-1.90	+49.81	-7.85	18 20.8
26	4 40.3	35 4	40.1	49.5	39 44.80	40 6.08	17 17.73	1 42.87	1.91	48.61	7.86	20.7
27	4 44.8	35 4	44.9	54.5	39 49.70	40 5.10	17 16.75	1 43.46	1.92	48.41	7.86	20.6
July 1	4 39.3	35 4	34.1	44.9	39 39.50	40 3.26	17 14.91	1 46.44	1.92	49.97	7.88	20.2
3	5 23.0	40 0	36.8	44.3	40 40.55	40 7.53	17 19.18	1 43.11	1.83	48.69	7.90	23.3
B. A. C. 5009. $\delta_0 = - 31^\circ 2' 22''.4$												
July 7	6 31.8	20 2	23.3	33.8	22 28.55	22 51.42	0 3.07	-3 1.84	-1.64	+49.08	-4.52	2 21.8
8	6 36.2	20 2	24.7	35.3	22 30.00	22 48.36	0 0.01	3 3.36	1.65	49.92	4.49	19.6
12	7 4.1	20 3	1.2	9.4	23 5.30	22 53.10	0 4.75	3 1.19	1.56	49.09	4.39	22.6
13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
β LIBRÆ.* $\delta_0 = - 8^\circ 54' 32''.4$												
July 7	9 55.1	15 1	23.9	30.0	16 26.95	16 49.49	54 1.14	-1 8.47	-1.50	+49.08	-10.76	54 32.8
8	9 54.3	15 1	20.8	28.8	16 24.80	16 49.39	54 1.04	1 9.01	1.51	49.92	10.86	32.5
12	9 58.0	15 1	24.6	30.7	16 27.65	16 49.92	54 1.57	1 8.20	1.50	49.09	10.96	33.1
13	9 56.2	15 1	19.1	26.8	16 22.95	16 48.36	54 0.01	1 9.31	1.51	48.92	11.06	33.0
δ BOOTIS pr.* $\delta_0 = + 33^\circ 47' 37''.0$												
July 9	10 8.2	30 4	51.0	56.8	34 58.75	35 37.53	47 20.82	-0 8.19	-0.41	+47.25	-22.83	47 36.6
10	10 9.7	30 4	56.9	3.4	35 0.15	35 36.48	47 21.87	0 8.41	0.39	47.80	23.03	37.8
20	10 16.0	35 0	4.6	9.9	35 7.25	35 25.39	47 22.96	0 8.49	0.39	47.52	24.13	37.5
23	10 12.6	30 4	58.8	5.0	35 1.90	35 24.48	47 23.87	0 8.63	0.44	48.06	24.53	38.3
ϵ LIBRÆ. $\delta_0 = - 9^\circ 51' 36''.7$												
July 7	17 49.3	10 4	30.0	38.5	14 34.25	13 54.61	51 6.26	-1 10.87	-0.79	+49.08	-10.23	51 39.1
8	17 43.3	10 4	19.0	27.0	14 23.00	13 52.35	51 4.00	1 11.40	0.86	49.92	10.27	36.6
10	17 41.2	10 4	12.2	18.2	14 15.20	13 49.04	51 0.69	1 11.73	0.91	47.80	10.34	35.9
12	17 5.7	10 3	26.8	33.2	13 30.00	13 53.43	51 5.08	1 10.57	1.07	49.09	10.42	38.1
13	17 3.7	10 3	22.3	30.9	13 26.60	13 53.30	51 4.95	1 11.71	1.07	48.92	10.46	39.3

Date. 1871.		Right Ascension Wires.										Seconds of transit over Mean Wire.	n tang. δ + κ.	ΔT + m.	Red. to 1872.0.	Mean Right Ascension for 1872.0.		
		1	2	3	4	5	6	7	8	9	10							11
		γ URSÆ MINORIS.* $a_0 = 15^h 20^m 57^s.13$																
July	7	^{s.} 27.3	^{s.} 34.0	^{s.} 40.6	^{s.} 54.2	^{s.} 0.8	^{s.} 7.5	^{s.} 14.5	^{s.} 21.3	^{s.} 34.6	^{s.} 41.3	^{s.} 48.0	^{s.} 7.65	^{s.} -1.61	^{s.} -6.37	^{s.} -2.71	^{m.} 20	^{s.} 56.96
	8	27.7	34.4	41.4	54.6	1.1	8.1	15.1	21.8	34.9	41.8	48.4	8.12	1.61	6.93	2.66		56.92
	10	29.0	35.8	42.3	56.1	2.9	9.3	16.2	22.9	36.7	43.2	49.9	9.48	1.61	8.21	2.54		57.12
	12	...	...	...	56.7	3.5	10.1	16.9	23.7	...	...	...	10.18	1.72	9.14	2.43		56.89
	13	30.4	37.1	44.1	57.3	3.9	10.7	17.6	24.0	37.9	44.4	51.2	10.78	1.96	9.62	2.37		56.83
		β CORONÆ.* $a_0 = 15^h 22^m 33^s.10$																
July	12	27.3	29.6	32.0	36.7	39.0	41.4	43.8	46.2	50.9	53.1	55.5	41.41	-0.32	-9.14	+1.17	22	33.12
	13	...	...	...	37.1	39.5	41.7	44.0	46.6	...	...	...	41.78	0.37	9.62	1.18		32.97
	20	30.6	33.0	35.4	40.0	42.5	44.8	47.2	49.6	54.3	56.7	59.0	44.83	0.29	12.68	1.28		33.14
	23	31.3	33.6	36.0	40.7	43.0	45.4	47.8	50.0	54.9	57.2	59.5	45.40	0.30	13.36	1.33		33.07
		ν ¹ BOOTIS.* $a_0 = 15^h 26^m 19^s.90$																
July	7	9.7	12.5	15.2	20.6	23.3	26.0	28.8	31.5	37.1	39.7	42.5	26.08	-0.46	-6.37	+0.67	26	19.92
	8	10.4	13.0	15.8	21.1	24.0	26.6	29.4	32.1	37.5	40.2	43.0	26.64	0.46	6.93	0.68		19.93
	10	11.4	14.1	16.9	22.4	25.2	27.8	30.4	33.1	38.8	41.4	44.1	27.78	0.46	8.21	0.71		19.82
	12	12.4	15.1	17.9	23.4	26.1	29.1	31.5	34.3	39.7	42.4	45.1	28.82	0.49	9.14	0.74		19.93
	13	13.0	15.7	18.4	23.8	26.6	29.3	32.0	34.9	40.2	42.9	45.7	29.32	0.56	9.62	0.76		19.90
		ν ² BOOTIS.* $a_0 = 15^h 27^m 12^s.01$																
July	8	2.2	5.1	7.7	13.2	16.1	18.8	21.6	24.3	29.7	32.5	35.1	18.76	-0.46	-6.93	+0.69	27	12.06
	12	4.6	7.3	10.0	15.6	18.3	20.9	23.7	26.5	31.9	34.6	37.4	20.98	0.49	9.14	0.75		12.10
	13	5.3	7.8	10.5	15.9	18.8	21.4	24.1	26.9	32.5	35.2	37.8	21.47	0.56	9.62	0.76		12.05
	20	7.9	10.6	13.3	18.9	21.7	24.3	27.0	29.9	35.2	38.0	40.8	24.33	0.44	12.68	0.88		12.09
	23	8.5	11.3	13.9	19.4	22.2	24.9	27.7	30.5	35.9	38.7	41.3	24.94	0.46	13.36	0.93		12.05
		α CORONÆ.* $a_0 = 15^h 29^m 16^s.12$																
July	7	7.8	10.1	12.4	17.0	19.3	21.7	24.0	26.3	30.9	33.2	35.6	21.66	-0.27	-6.37	+1.13	29	16.15
	8	8.3	10.6	12.8	17.5	19.8	22.2	24.6	26.8	31.3	33.6	35.9	22.13	0.27	6.93	1.14		16.07
	10	9.6	11.8	14.3	18.9	21.1	23.4	25.8	28.1	32.7	35.0	37.2	23.44	0.27	8.21	1.16		16.12
	12	10.5	12.8	15.1	19.7	22.0	24.4	26.6	29.0	33.5	35.9	38.1	24.33	0.29	9.14	1.18		16.08
	13	11.0	13.3	15.6	20.1	22.5	24.8	27.2	29.6	34.0	36.4	38.7	24.84	0.33	9.62	1.19		16.08
		ψ ¹ LUPI. $a_0 = 15^h 31^m 38^s.38$																
July	8	28.3	31.0	33.2	38.2	40.7	43.0	45.7	48.1	53.0	55.6	57.9	43.15	+0.32	-6.93	+2.07	31	38.61
	20	33.7	36.3	38.8	43.7	46.3	48.7	51.3	53.7	58.7	1.2	3.5	48.72	0.30	12.68	2.19		38.53
		ψ ² LUPI. $a_0 = 15^h 34^m 31^s.85$																
July	7	21.0	23.6	26.0	31.0	33.4	36.0	38.6	41.0	45.8	48.4	50.8	35.96	+0.32	-6.37	+2.05	34	31.96
	12	23.8	26.1	28.8	33.8	36.1	38.7	41.2	43.6	48.6	51.0	53.6	38.66	0.34	9.14	2.10		31.96
	13	24.1	26.8	29.1	34.4	36.8	39.2	41.8	44.3	49.1	51.5	54.0	39.19	0.40	9.62	2.11		32.08
	20	27.1	29.6	32.0	37.2	39.6	42.1	44.6	47.1	52.2	54.5	57.0	42.09	0.31	12.68	2.18		31.90
		α SERPENTIS.* $a_0 = 15^h 37^m 57^s.83$																
July	20	56.5	58.6	0.6	4.9	7.0	9.0	11.0	13.1	17.3	19.3	21.4	8.97	-0.07	-12.68	+1.62	37	57.84
	23	57.2	59.3	1.4	5.6	7.6	9.6	11.7	13.8	17.9	20.0	22.0	9.64	0.08	13.37	1.65		57.84
Aug.	2	59.1	1.2	3.3	7.5	9.5	11.6	13.6	15.7	19.9	21.9	24.0	11.57	0.08	15.38	1.78		57.89
	3	59.3	1.3	3.4	7.5	9.6	11.7	13.8	15.8	19.8	22.0	24.0	11.66	0.08	15.52	1.79		57.85

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.	
			A.	C.									
July	γ URSÆ MINORIS.* $\delta_0 = + 72^\circ 17' 22''.1$												
	7	20 15.6	5 1	0.8	56.3	5 58.55	6 20.43	16 27.92	+0 31.63	+0.95	+49.08	-27.11	17 22.5
	8	20 17.1	5 1	1.2	58.3	5 59.75	6 21.25	16 27.10	0 31.87	0.96	49.92	27.21	22.6
	10	20 15.2	5 0	57.8	54.3	5 56.05	6 18.90	16 29.45	0 32.01	0.89	47.80	27.51	22.6
	12	20 3.0	5 0	53.5	49.8	5 51.65	6 19.93	16 28.42	0 31.50	0.64	49.09	27.71	21.9
	13	20 21.3	5 1	1.4	57.7	5 59.55	6 20.38	16 27.97	0 32.00	0.98	48.92	27.81	22.1
	β CORONÆ.* $\delta_0 = + 29^\circ 32' 53''.1$												
	12	22 19.2	45 4	42.2	46.0	49 44.10	50 10.80	32 37.55	-0 12.49	+0.41	+49.09	-21.32	32 53.2
	13	22 49.1	50 0	16.2	20.5	50 18.35	50 9.58	32 38.77	0 12.69	-0.47	48.92	21.42	53.1
	20	22 26.4	45 4	42.6	49.8	49 46.20	50 7.51	32 40.84	0 12.81	+0.40	47.52	22.22	53.7
23	23 5.1	50 0	27.5	34.6	50 31.05	50 8.11	32 40.24	0 13.02	-0.51	48.06	22.62	52.1	
July	ν^1 BOOTIS.* $\delta_0 = + 41^\circ 16' 14''.4$												
	7	26 5.2	5 1	35.0	36.9	6 35.95	6 57.67	15 50.68	-0 1.05	+0.18	+49.08	-22.75	16 16.1
	8	26 4.7	5 1	36.8	39.2	6 38.00	7 00.76	15 47.59	0 1.05	0.17	49.92	22.95	13.7
	10	26 7.8	5 1	35.6	37.2	6 36.40	6 57.18	15 51.17	0 1.07	0.19	47.80	23.25	14.8
	12	25 59.3	5 1	26.1	28.1	6 27.10	6 57.76	15 50.59	0 1.05	0.03	49.09	23.55	15.1
	13	26 1.1	5 1	27.2	29.3	6 28.25	6 57.55	15 50.80	0 1.07	0.06	48.92	23.65	15.1
	ν^2 BOOTIS.* $\delta_0 = + 41^\circ 20' 5''.7$												
	8	27 16.4	0 3	4.3	7.8	3 6.05	3 8.44	19 39.91	-0 1.04	+0.63	+49.92	-22.89	20 6.5
	12	27 13.6	0 2	58.8	60.3	2 59.55	3 7.23	19 41.12	0 1.04	0.59	49.09	23.49	6.3
	13	27 14.2	0 2	59.0	60.2	2 59.60	3 7.18	19 41.17	0 1.04	0.59	48.92	23.59	6.1
July	α CORONÆ.* $\delta_0 = + 27^\circ 8' 49''.1$												
	7	29 3.6	10 3	50.5	54.8	13 52.65	14 14.92	8 33.43	-0 14.99	+0.15	+49.08	-19.53	8 48.1
	8	29 11.7	10 3	59.4	65.2	14 2.30	14 15.10	8 33.25	0 15.09	0.25	49.92	19.73	48.6
	10	29 5.4	10 3	48.4	52.0	13 50.20	14 12.34	8 36.01	0 15.16	0.15	47.80	20.03	48.8
	12	29 9.1	10 3	53.8	58.0	13 55.90	14 14.60	8 33.75	0 14.93	0.19	49.09	20.23	47.9
	13	29 2.2	10 3	43.7	49.1	13 46.40	14 14.21	8 34.14	0 15.16	0.11	48.92	20.33	47.7
	ψ^1 LUPI. $\delta_0 = - 33^\circ 59' 32''.0$												
	8	31 25.4	15 3	54.3	65.4	18 59.85	19 20.14	56 31.79	-3 43.57	-1.34	+49.92	-3.04	59 29.8
	20	31 27.9	15 3	46.9	59.2	18 53.05	19 16.13	56 27.78	3 46.73	1.37	47.52	2.67	31.0
	July	ψ^2 LUPI. $\delta_0 = - 34^\circ 17' 45''.9$											
7		34 59.9	35 2	57.6	67.1	38 2.35	37 34.94	14 46.59	-3 47.26	-1.48	+49.08	-2.94	17 49.2
12		34 13.3	35 2	5.8	15.8	37 10.80	37 39.81	14 51.46	3 46.42	1.67	49.09	2.71	53.2
13		34 12.4	35 1	58.4	68.9	37 3.65	37 34.26	14 45.91	3 49.68	1.66	48.92	2.67	51.0
20		34 23.9	35 2	5.7	18.2	37 11.95	37 32.08	14 43.73	3 51.90	1.74	47.52	2.42	52.3
α SERPENTIS.* $\delta_0 = + 6^\circ 49' 47''.8$													
July	20	37 55.4	30 2	29.0	39.7	32 34.35	32 52.43	49 55.92	-0 40.15	-0.86	+47.52	-14.89	49 47.5
	23	37 50.3	30 2	22.3	32.3	32 27.30	32 52.95	49 55.40	0 40.82	0.89	48.06	15.09	46.7
Aug.	2	37 54.5	30 2	24.8	32.9	32 28.85	32 51.58	49 56.77	0 39.41	0.89	47.27	15.79	47.9
	3	37 55.0	30 2	24.1	31.8	32 27.95	32 50.15	49 58.20	0 38.98	0.79	45.73	15.89	48.8

Date. 1871.		Right Ascension Wires.										Seconds of transit over Mean Wire.	n tang. δ + κ.	ΔT + m.	Red. to 1872.0.	Mean Right Ascension for 1872.0.			
		1	2	3	4	5	6	7	8	9	10							11	
		β SERPENTIS.*										a ₀ = 15 ^h 40 ^m 16 ^s .84							
July	13	12.5	14.6	16.8	21.0	23.1	25.4	27.6	29.6	33.7	35.8	37.9	25.27	-0.19	-9.62	+1.39	40	16.85	
	20	15.4	17.7	19.7	23.9	26.1	28.2	30.4	32.5	36.7	38.9	41.0	28.23	0.15	12.68	1.46		16.86	
	23	16.0	18.2	20.3	24.6	26.8	28.8	30.9	33.1	37.4	39.6	41.6	28.85	0.16	13.37	1.49		16.81	
Aug.	2	18.0	20.1	22.3	26.5	28.7	30.8	32.9	35.1	39.2	41.4	43.6	30.78	0.16	15.38	1.62		16.86	
	3	18.1	20.2	22.3	26.6	28.8	31.0	33.0	35.1	39.3	41.5	43.7	30.87	0.16	15.52	1.63		16.82	
		μ SERPENTIS.*										a ₀ = 15 ^h 42 ^m 56 ^s .52							
July	13	52.1	54.2	56.1	0.2	2.3	4.5	6.6	8.7	12.9	14.9	16.8	4.48	+0.02	-9.62	+1.68	42	56.56	
	20	55.0	57.1	59.2	3.3	5.3	7.4	9.5	11.5	15.7	17.7	19.8	7.41	0.01	12.68	1.75		56.49	
	23	55.7	57.8	59.9	3.8	6.0	8.0	10.1	12.3	16.3	18.4	20.4	8.06	0.01	13.37	1.78		56.48	
Aug.	2	57.7	59.7	1.7	5.9	7.9	10.0	12.1	14.1	18.2	20.4	22.4	10.01	0.01	15.38	1.79		56.43	
	3	57.9	59.7	1.9	6.0	8.0	10.1	12.1	14.2	18.4	20.4	22.4	10.10	0.01	15.52	1.80		56.39	
		ε SERPENTIS.*										a ₀ = 15 ^h 44 ^m 26 ^s .20							
July	13	21.9	24.1	26.1	30.3	32.2	34.3	36.3	38.5	42.5	44.7	46.8	34.34	-0.07	-9.62	+1.56	44	26.21	
	23	25.6	27.6	29.7	33.8	35.9	37.9	40.0	42.1	46.2	48.3	50.3	37.94	0.06	13.37	1.65		26.16	
	27	26.2	28.2	30.3	34.4	36.4	38.4	40.6	42.7	46.7	48.8	50.9	38.51	0.07	13.92	1.70		26.22	
		λ LIBRÆ.										a ₀ = 15 ^h 45 ^m 54 ^s .36							
July	13	48.8	51.0	53.2	57.5	59.8	2.0	4.2	6.5	10.6	12.9	15.1	1.96	+0.20	-9.63	+1.89	45	54.42	
Aug.	2	54.5	56.6	58.8	3.1	5.3	7.6	9.7	11.9	16.2	18.4	20.6	7.52	0.17	15.38	2.10		54.41	
		ζ URSÆ MINORIS.*										a ₀ = 15 ^h 48 ^m 40 ^s .40							
July	13	59.1	9.2	19.0	39.0	49.1	59.2	9.1	19.4	39.3	48.7	59.1	59.11	-2.99	-9.63	-5.81	48	40.68	
	20	0.7	10.6	20.8	40.8	51.0	1.0	11.3	21.0	40.9	51.2	1.0	0.94	2.35	12.69	5.18		40.72	
	23	...	...	...	41.3	51.3	1.2	11.5	21.5	...	...	...	1.36	2.46	13.37	4.89		40.64	
	27	...	...	...	41.8	51.5	1.5	11.6	22.0	...	...	...	1.68	2.58	13.92	4.49		40.69	
Aug.	2	2.5	12.5	22.3	42.9	52.6	2.6	12.6	22.6	42.5	52.8	2.7	2.60	2.50	15.38	3.88		40.84	
		γ SERPENTIS.*										a ₀ = 15 ^h 50 ^m 32 ^s .51							
July	23	31.8	33.9	36.0	40.3	42.5	44.6	46.8	48.9	53.1	55.2	57.4	44.59	-0.16	-13.37	+1.42	50	32.48	
Aug.	3	33.8	35.9	38.0	42.4	44.5	46.6	48.7	51.0	55.1	57.4	59.4	46.62	0.17	15.52	1.56		32.49	
		δ SCORPII.										a ₀ = 15 ^h 52 ^m 46 ^s .07							
July	20	43.2	45.3	47.6	52.1	54.3	56.5	58.7	1.0	5.3	7.5	9.8	56.48	+0.18	-12.69	+1.96	52	45.93	
	23	43.8	46.1	48.3	52.8	55.0	57.2	59.4	1.7	6.1	8.3	10.6	57.21	0.19	13.37	1.99		46.02	
Aug.	2	45.7	48.0	50.3	54.7	57.0	59.2	1.4	3.6	8.0	10.3	12.3	59.14	0.19	15.38	2.10		46.05	
	3	45.9	48.1	50.4	54.8	57.1	59.3	1.5	3.7	8.1	10.4	12.6	59.27	0.19	15.52	2.11		46.05	
		GROOM. 2296.*										a ₀ = 15 ^h 54 ^m 45 ^s .13							
July	13	34.6	38.1	41.7	49.1	52.5	56.0	59.6	3.3	10.5	14.0	17.6	56.09	-0.90	-9.63	-0.35	54	45.21	
	20	...	...	...	51.6	55.3	58.9	2.4	6.1	...	...	...	58.86	0.71	12.69	-0.16		45.30	
	22	37.8	41.2	45.3	52.6	55.7	59.4	3.0	6.5	13.5	17.2	20.9	59.37	0.76	13.30	-0.11		45.20	
	23	37.8	41.4	45.0	52.3	56.0	59.4	3.0	6.6	13.9	17.4	21.0	59.44	0.74	13.37	-0.08		45.25	
Aug.	2	...	...	...	54.2	57.7	1.2	4.9	8.5	...	...	...	1.30	0.75	15.38	+0.21		45.38	

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.	
			A.	C.									
β SERPENTIS.* $\delta_0 = + 15^\circ 49' 26''.0$													
July 13	40	6.7	30	2	57.2	65.1	33	1.15	33	25.89	49 22.46	-0 27.82 -0.43 +48.92 -16.65	49 26.5
20	40	7.5	30	2	52.0	60.9	32	56.45	33	23.11	49 25.24	0 28.10 0.49 47.52 17.35	26.8
23	40	9.8	30	2	53.7	63.2	32	58.45	33	22.92	49 25.43	0 28.56 0.47 48.06 17.55	26.9
Aug. 2	40	14.8	30	2	56.9	64.9	33	0.90	33	21.51	49 28.14	0 27.60 0.44 47.27 18.35	27.7
3	40	15.6	30	2	57.5	65.0	33	1.25	33	20.96	49 27.39	0 27.28 0.32 45.73 18.45	27.1
μ SERPENTIS.* $\delta_0 = - 3^\circ 2' 11''.7$													
July 13	42	50.3	20	4	16.1	26.1	24	21.10	24	40.71	1 52.36	-0 56.40 -0.71 +48.92 -11.42	2 12.0
20	42	50.5	20	4	11.6	22.7	24	17.15	24	39.74	1 51.39	0 56.96 0.77 47.52 11.72	13.3
23	42	51.0	20	4	10.2	22.6	24	16.40	24	39.26	1 50.91	0 57.90 0.77 48.06 11.82	13.3
Aug. 2	42	51.6	20	4	8.8	19.9	24	14.35	24	38.95	1 50.60	0 55.96 0.77 47.27 12.42	12.5
3	43	37.6	25	0	10.1	17.2	25	13.65	24	36.89	1 48.54	0 55.31 1.60 45.73 12.42	12.1
ϵ SERPENTIS.* $\delta_0 = + 4^\circ 51' 53''.1$													
July 13	44	16.3	30	0	18.4	28.6	30	23.50	30	48.30	52 0.05	-0 42.71 -1.36 +48.92 -13.41	51 51.5
23	44	24.5	30	0	22.2	34.6	30	28.40	30	46.27	52 2.08	0 43.84 1.35 48.06 14.21	50.7
27	44	58.0	30	1	7.9	17.4	31	12.65	30	46.64	52 1.71	0 42.64 1.21 48.31 14.51	51.7
λ LIBRÆ. $\delta_0 = - 19^\circ 46' 56''.2$													
July 13	45	45.6	5	3	18.0	26.0	8	22.00	8	43.20	45 54.85	-1 44.91 -1.31 +48.92 -6.33	46 58.5
Aug. 2	45	50.7	5	3	14.0	22.4	8	18.20	8	39.36	45 51.01	1 44.12 1.35 47.27 6.56	55.8
ζ URSÆ MINORIS.* $\delta_0 = + 78^\circ 11' 13''.3$													
July 13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
20	47	52.3	10	2	20.4	18.8	12	19.60	12	38.41	10 9.94	+0 40.50 +1.33 +47.52 -25.88	11 13.4
23	48	35.9	10	2	32.1	31.3	12	31.70	12	38.69	10 9.66	0 41.23 1.81 48.06 26.18	14.6
27	47	47.7	10	2	19.0	17.3	12	18.15	12	38.44	10 9.91	0 40.10 1.24 48.31 26.48	13.1
Aug. 2	47	52.9	10	2	19.8	17.3	12	18.55	12	37.66	10 10.69	0 39.86 1.31 47.27 26.88	12.3
γ SERPENTIS.* $\delta_0 = + 16^\circ 4' 51''.5$													
July 23	50	23.9	15	2	26.5	35.4	17	30.95	17	57.57	4 50.78	-0 28.25 -0.58 +48.06 -17.61	4 52.4
Aug. 3	50	31.1	15	2	31.8	40.0	17	35.90	17	55.83	4 52.52	0 26.98 0.42 45.73 18.71	52.1
δ SCORPII. $\delta_0 = - 22^\circ 15' 18''.6$													
July 20	52	39.8	35	1	22.7	34.5	36	28.60	36	49.29	14 0.94	-1 57.87 -1.79 +47.52 -5.34	15 18.4
23	52	38.1	35	1	21.1	32.2	36	26.65	36	50.31	14 1.96	1 59.82 1.77 48.06 5.34	20.8
Aug. 2	52	40.2	35	1	22.0	31.8	36	26.90	36	50.31	14 1.96	1 55.87 1.77 47.27 5.41	17.7
3	52	35.3	35	1	17.0	26.7	36	21.85	36	51.58	14 3.23	1 54.50 1.70 45.73 5.42	19.1
GROOM. 2296.* $\delta_0 = + 55^\circ 6' 43''.3$													
July 13	54	23.2	15	1	15.2	19.0	16	17.10	16	43.12	6 5.23	+0 12.57 +0.53 +48.92 -23.02	6 44.2
20	54	48.3	15	1	32.2	36.2	16	34.20	16	42.32	6 6.03	0 12.70 0.82 47.52 24.12	43.0
22	55	9.1	15	1	47.2	50.5	16	48.85	16	41.43	6 6.92	0 12.81 0.87 47.22 24.22	43.6
23	54	32.0	15	1	18.0	22.2	16	20.10	16	41.08	6 7.27	0 12.92 0.60 48.06 24.42	44.4
Aug. 2	54	51.6	15	1	30.8	33.6	16	32.20	16	39.62	6 8.73	0 12.48 0.81 47.27 25.52	43.8

Date.	Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
1871.	1	2	3	4	5	6	7	8	9	10	11					
β SCORPII pr. $a_0 = 15^h 57^m 59^s.79$																
July 13	54.3	56.5	59.0	3.0	5.3	7.4	9.7	11.8	16.1	18.5	20.5	7.46	+0.20	— 9.63	+1.84	57 59.87
20	57.3	59.6	1.7	6.1	8.3	10.5	12.7	14.8	19.3	21.4	23.5	10.47	0.15	12.69	1.90	59.83
22	57.9	0.3	2.3	6.5	8.7	11.0	13.1	15.3	19.7	21.9	24.1	10.98	0.17	13.30	1.91	59.76
23	58.0	0.3	2.4	6.7	8.9	11.1	13.3	15.4	19.8	22.0	24.1	11.09	0.16	13.37	1.92	59.80
Aug. 2	59.9	2.0	4.3	8.7	10.8	13.0	15.2	17.3	21.7	23.9	26.0	12.98	0.17	15.38	2.03	59.80
θ DRACONIS.* $a_0 = 15^h 59^m 29^s.52$																
July 13	17.1	21.0	25.1	33.0	37.0	40.7	44.9	48.9	57.0	0.8	4.8	40.94	—1.04	— 9.63	—0.77	59 29.50
20	19.7	23.7	27.8	35.7	39.7	43.7	47.7	51.8	59.7	3.7	7.6	43.71	0.82	12.69	0.58	29.62
22	...	...	...	36.2	40.1	44.0	48.1	52.1	...	...	...	44.10	0.88	13.30	0.50	29.42
23	...	...	...	35.8	40.0	44.2	48.3	52.3	...	...	...	44.12	0.86	13.37	0.47	29.42
Aug. 3	22.0	26.0	30.1	38.1	42.1	46.1	50.1	54.1	2.1	6.1	9.9	46.06	0.89	15.52	0.10	29.55
κ HERCULIS pr. $a_0 = 16^h 2^m 17^s.93$																
July 13	13.5	15.8	17.9	22.1	24.3	26.6	28.7	31.0	35.2	37.3	39.5	26.54	—0.20	— 9.63	+1.23	2 17.94
20	16.6	18.8	20.9	25.2	27.4	29.5	31.7	33.8	38.1	40.2	42.4	29.51	0.16	12.69	1.29	17.95
22	17.0	19.3	21.5	25.9	28.0	30.1	32.3	34.5	38.8	40.8	43.0	30.11	0.17	13.30	1.32	17.96
27	17.7	19.9	22.1	26.4	28.6	30.7	32.9	35.0	39.3	41.5	43.6	30.70	0.18	13.92	1.36	17.96
Aug. 3	19.2	21.4	23.5	27.8	30.0	32.2	34.3	36.5	40.7	42.9	45.0	32.14	0.18	15.52	1.47	17.91
ν SCORPII seq. $a_0 = 16^h 4^m 33^s.48$																
July 13	50.0	52.1	54.4	58.5	0.9	2.9	5.1	7.3	11.7	13.9	16.0	2.98	+0.20	— 9.63	+1.81	4 (55.36)
20	31.1	33.4	35.5	39.7	41.9	44.0	46.3	48.5	52.7	54.9	57.2	44.11	0.15	12.69	1.87	33.44
22	31.7	33.9	36.0	40.4	42.7	44.8	46.9	49.1	53.6	55.8	58.0	44.81	0.16	13.30	1.88	33.55
23	31.7	33.9	36.1	40.5	42.7	44.8	47.0	49.0	53.5	55.7	57.9	44.80	0.16	13.37	1.90	33.49
27	32.3	34.4	36.5	41.0	43.3	45.4	47.5	49.7	54.1	56.2	58.5	45.35	0.17	13.92	1.93	33.53
δ OPHIUCHI.* $a_0 = 16^h 7^m 38^s.36$																
July 13	34.1	36.2	38.3	42.3	44.3	46.4	48.4	50.6	54.6	56.8	58.8	46.44	+0.02	— 9.63	+1.59	7 38.42
20	37.0	39.0	41.0	45.3	47.4	49.4	51.5	53.5	57.6	59.7	1.7	49.37	0.01	12.69	1.62	38.31
22	37.7	39.7	41.7	45.9	48.0	50.1	52.2	54.1	58.3	0.3	2.4	50.04	0.01	13.30	1.65	38.40
23	37.6	39.8	41.9	45.9	48.0	50.0	52.0	54.2	58.3	0.3	2.4	50.04	0.02	13.37	1.66	38.35
27	38.1	40.2	42.3	46.5	48.5	50.6	52.7	54.7	58.9	0.9	2.9	50.57	0.02	13.92	1.68	38.35
ϵ OPHIUCHI.* $a_0 = 16^h 11^m 32^s.97$																
July 13	28.7	30.8	32.8	36.8	38.9	41.1	43.1	45.2	49.3	51.4	53.3	41.04	+0.03	— 9.63	+1.59	11 33.03
20	31.8	33.9	35.9	39.9	42.0	44.1	46.2	48.2	52.3	54.2	56.3	44.07	0.02	12.69	1.64	33.04
22	32.3	34.3	36.5	40.6	42.6	44.7	46.8	48.8	52.8	54.9	56.9	44.66	0.02	13.30	1.65	33.03
23	32.4	34.4	36.5	40.5	42.7	44.6	46.7	48.8	53.0	55.0	57.0	44.69	0.02	13.37	1.66	33.00
27	32.9	34.9	36.9	41.1	43.2	45.2	47.3	49.5	53.5	55.5	57.6	45.24	0.02	13.92	1.70	33.04
19 URSÆ MINORIS.* $a_0 = 16^h 14^m 30^s.23$																
July 22	58.4	7.0	16.0	33.1	41.5	50.4	58.9	7.0	24.7	33.0	41.7	50.15	—2.14	—13.30	—4.79	14 29.92
23	58.5	7.1	16.0	32.9	41.3	50.6	58.9	7.3	24.7	33.3	42.0	50.24	2.10	13.37	4.75	30.02
27	...	...	...	33.6	42.0	50.5	59.2	8.0	...	...	...	50.66	2.19	13.92	4.59	29.96
Aug. 2	...	...	...	34.6	42.7	51.9	0.2	8.7	...	...	...	51.62	2.13	15.38	4.35	29.76

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			A.	C.								
β SCORPII pr. $\delta_0 = -19^\circ 27' 10''.6$												
July 13	57 46.2	45 3	26.1	36.2	48 31.15	48 58.93	26 10.58	-1 43.48	-1.24	+48.92	-5.88	27 12.3
20	57 46.6	45 3	20.2	30.9	48 25.55	48 55.73	26 7.38	1 44.50	1.28	47.52	5.88	11.5
22	57 54.5	45 3	27.7	38.8	48 33.25	48 54.08	26 5.73	1 45.41	1.31	47.22	5.88	11.1
23	57 53.2	45 3	27.2	37.8	48 32.50	48 55.10	26 6.75	1 46.24	1.29	48.06	5.98	12.2
Aug. 2	57 55.3	45 3	27.2	36.4	48 31.80	48 54.02	26 5.67	1 42.76	1.29	47.27	5.98	8.4
θ DRACONIS.* $\delta_0 = +58^\circ 54' 27''.1$												
July 13	59 9.8	25 3	41.8	43.3	28 42.55	29 4.76	53 43.59	+0 16.52	+1.26	+48.92	-22.84	54 27.4
20	59 33.1	25 3	53.3	56.4	28 54.85	29 2.18	53 46.17	0 16.68	1.47	47.52	23.84	28.0
22	0 15.1	25 4	20.2	24.0	29 22.10	29 0.66	53 47.69	0 16.83	1.36	47.22	24.14	29.0
23	0 0.6	25 4	11.4	14.4	29 12.90	29 1.49	53 46.86	0 16.96	1.49	48.06	24.24	29.1
Aug. 3	59 19.8	25 3	37.8	40.1	28 38.95	28 57.14	53 51.21	0 16.21	1.43	45.73	25.44	29.1
κ HERCULIS pr. $\delta_0 = +17^\circ 23' 22''.1$												
July 13	2 7.5	55 4	3.2	11.8	59 7.50	59 32.57	23 15.78	-0 25.95	-0.16	+48.92	-16.59	23 22.0
20	2 13.4	55 4	6.3	15.1	59 10.70	59 31.27	23 17.08	0 26.20	0.16	47.52	17.24	21.0
22	2 12.1	55 4	3.3	11.8	59 7.55	59 30.55	23 17.80	0 26.43	0.19	47.22	17.45	21.0
27	2 13.4	55 4	4.0	11.7	59 7.85	59 29.95	23 18.40	0 25.93	0.19	48.31	17.96	22.6
Aug. 3	2 11.3	55 3	56.2	4.6	59 0.40	59 26.97	23 21.38	0 25.46	0.05	45.73	18.54	23.1
ν SCORPII seq. $\delta_0 = -19^\circ 7' 32''.5$												
July 13	4 43.1	35 1	1.4	11.1	36 6.25	36 32.25	13 43.90	-1 42.59	-1.76	+48.92	-6.75	(14 46.1)
20	4 27.7	25 3	52.2	63.3	28 57.75	29 18.37	6 30.02	1 43.08	1.20	47.52	6.79	7 33.6
22	4 26.8	25 3	48.7	59.2	28 53.95	29 16.72	6 28.37	1 44.02	1.19	47.22	6.81	33.2
23	4 46.0	25 4	16.4	26.9	29 21.65	29 20.14	6 31.79	1 44.81	1.16	48.06	6.82	36.5
27	4 31.2	25 3	58.0	68.3	29 3.15	29 20.98	6 32.63	1 42.04	1.19	48.31	6.86	34.4
δ OPHIUCHI.* $\delta_0 = -3^\circ 21' 46''.6$												
July 13	8 3.7	40 4	36.0	45.4	44 40.70	44 16.83	21 28.48	-0 57.05	-0.65	+48.92	-10.00	21 47.3
20	7 31.4	40 3	44.7	55.0	43 49.85	44 13.91	21 25.56	0 57.61	0.87	47.52	10.40	46.9
22	7 33.6	40 3	45.0	56.3	43 50.65	44 12.57	21 24.22	0 58.14	0.86	47.22	10.50	46.5
23	7 31.6	40 3	43.6	55.0	43 49.30	44 14.02	21 25.67	0 58.59	0.86	48.06	10.60	47.7
27	7 36.9	40 3	50.4	59.7	43 55.05	44 13.36	21 25.01	0 57.03	0.85	48.31	10.70	45.3
ϵ OPHIUCHI.* $\delta_0 = -4^\circ 22' 43''.2$												
July 13	11 23.5	40 4	41.4	51.8	44 46.60	45 10.73	22 22.38	-0 59.10	-0.67	+48.92	-9.31	22 42.5
20	11 28.1	40 4	41.1	53.8	44 47.45	45 8.81	22 20.46	0 59.69	0.70	47.52	9.71	43.0
22	11 31.8	40 4	44.8	55.2	44 50.00	45 7.09	22 18.74	0 60.27	0.69	47.22	9.91	42.4
23	11 25.8	40 4	36.8	48.2	44 42.50	45 7.73	22 19.38	0 60.70	0.71	48.06	10.01	42.7
27	11 30.0	40 4	44.6	54.0	44 49.30	45 9.59	22 21.24	0 59.12	0.70	48.31	10.31	43.1
19 URSÆ MINORIS.* $\delta_0 = +76^\circ 11' 55''.1$												
July 22	13 43.0	10 1	36.6	34.2	11 35.40	11 56.83	10 51.52	+0 38.01	+1.08	+47.22	-23.71	11 54.1
23	14 11.0	10 1	44.0	42.6	11 43.30	11 55.80	10 52.55	0 38.28	1.46	48.06	23.81	56.5
27	13 35.6	10 1	30.5	29.5	11 30.00	11 53.92	10 54.43	0 37.28	0.90	48.31	24.31	56.6
Aug. 2	15 0.6	10 2	00.0	58.7	11 59.35	11 56.48	10 51.87	0 37.04	1.72	47.27	24.91	53.0

Date. 1871.	Right Ascension Wires.											Seconds of Transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
Aug. 3 10	γ HERCULIS.* $a_0 = 16^h 16^m 16^s.43$															
	^{s.} 17.7	^{s.} 19.8	^{s.} 22.0	^{s.} 26.5	^{s.} 28.7	^{s.} 30.8	^{s.} 33.0	^{s.} 35.2	^{s.} 39.5	^{s.} 41.8	^{s.} 44.0	^{s.} 30.82	^{s.} -0.20	^{s.} -15.52	^{s.} +1.33	^{m.} 16 ^{s.} 16.43
	16.0	18.2	20.4	24.6	26.9	29.1	31.2	33.4	37.8	39.9	42.1	29.06	0.21	13.85	1.43	16.43
July 20 22 23 27	ω HERCULIS.* $a_0 = 16^h 19^m 30^s.44$															
	29.4	31.6	33.7	37.9	40.1	42.2	44.3	46.5	50.7	52.7	54.8	42.17	-0.14	-12.69	+1.26	19 30.60
	29.9	32.1	34.2	38.5	40.6	42.6	44.8	46.8	51.2	53.2	55.3	42.65	0.15	13.30	1.28	30.48
Aug. 2 3	30.0	32.1	34.2	38.5	40.7	42.8	45.0	47.0	51.3	53.2	55.4	42.74	0.15	13.37	1.29	30.51
	30.6	32.8	34.9	39.1	41.2	43.3	45.4	47.5	51.7	53.8	56.1	43.31	0.15	13.92	1.34	30.58
	31.9	34.0	36.2	40.4	42.6	44.7	46.9	48.9	53.1	55.3	57.4	44.67	0.15	15.38	1.41	30.55
July 23 27	32.0	34.2	36.3	40.7	42.8	44.9	47.0	49.1	53.2	55.4	57.5	44.83	0.15	15.52	1.42	30.58
	α SCORPII. $a_0 = 16^h 21^m 33^s.75$															
	31.1	33.4	35.8	40.4	42.6	44.8	47.1	49.5	54.1	56.3	58.7	44.89	+0.23	-13.37	+1.91	21 33.66
Aug. 2 3 6	31.7	34.0	36.3	40.9	43.2	45.5	47.8	50.1	54.6	56.9	59.3	45.48	0.24	13.92	1.95	33.75
	η DRACONIS (seq. ?)* $a_0 = 16^h 22^m 15^s.81$															
	6.6	11.0	15.3	23.9	28.3	32.8	37.2	41.5	50.3	54.6	58.9	32.76	-0.98	-15.38	-0.71	22 15.69
July 23 27	6.8	11.1	15.4	24.1	28.3	32.8	37.1	41.5	50.1	54.6	58.9	32.79	1.00	15.52	0.68	15.59
	3.8	8.2	12.6	21.2	25.7	30.0	34.3	38.6	47.3	51.7	56.0	29.94	1.01	12.62	0.57	15.74
	λ OPHIUCHI.* $a_0 = 16^h 24^m 27^s.58$															
Aug. 2 3 6 10	27.1	29.1	31.2	35.4	37.5	39.5	41.5	43.6	47.7	49.8	51.8	39.47	-0.03	-13.37	+1.50	24 27.57
	27.6	29.4	31.8	35.9	37.9	39.9	42.0	44.1	48.2	50.3	52.3	39.94	0.04	13.92	1.54	27.52
	29.0	31.0	33.1	37.2	39.3	41.3	43.3	45.3	49.6	51.6	53.6	41.30	0.04	15.38	1.60	27.48
July 23 27	29.1	31.2	33.3	37.4	39.5	41.5	43.6	45.6	49.7	51.7	53.8	41.49	0.03	15.52	1.61	27.55
	26.2	28.3	30.4	34.4	36.6	38.6	40.7	42.8	46.8	48.8	50.8	38.58	0.04	12.63	1.65	27.56
	27.3	29.4	31.5	35.7	37.7	39.7	41.8	43.8	47.9	50.0	52.0	39.71	0.04	13.85	1.71	27.53
Aug. 2	τ SCORPII. $a_0 = 16^h 27^m 55^s.04$															
	52.3	54.7	57.0	1.5	4.0	6.2	8.5	10.9	15.6	17.8	20.2	6.25	+0.25	-13.37	+1.90	27 55.03
	...	...	...	3.3	5.8	8.1	10.6	12.8	...	...	...	8.12	0.25	15.38	2.00	54.99
Aug. 3 6 10	Λ DRACONIS.* $a_0 = 16^h 28^m 14^s.46$															
	...	...	...	21.9	27.7	33.3	38.9	44.9	...	...	...	33.34	-1.39	-15.52	-1.86	28 14.57
	56.1	1.5	7.4	18.9	24.6	30.3	35.8	41.8	53.3	59.1	4.8	30.33	1.41	12.63	1.70	14.59
July 23 Aug. 2 3 5 6 10	56.8	2.5	8.4	19.9	25.6	31.6	37.0	43.0	54.6	0.1	5.8	31.39	1.50	13.85	1.48	14.56
	ζ OPHIUCHI. $a_0 = 16^h 30^m 6^s.72$															
	5.8	7.9	10.1	14.1	16.3	18.4	20.4	22.5	26.5	28.8	30.8	18.33	+0.07	-13.37	+1.66	30 6.69
Aug. 2 3 5 6 10	...	...	...	16.1	18.2	20.2	22.3	24.4	...	...	...	20.24	0.07	15.38	1.75	6.68
	7.8	9.8	11.9	16.2	18.3	20.4	22.5	24.6	28.8	30.9	32.9	20.37	0.08	15.52	1.76	6.69
	...	...	...	16.9	19.0	21.1	23.3	25.4	...	...	...	21.14	0.09	16.26	1.79	6.76
July 23 Aug. 2	5.0	7.0	9.1	13.3	15.5	17.6	19.7	21.8	25.7	27.9	30.0	17.51	0.08	12.63	1.80	6.76
	6.0	8.2	10.5	14.4	16.6	18.7	20.8	22.9	27.0	29.1	31.1	18.66	0.08	13.85	1.85	6.74

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.		
			A.	C.										
γ HERCULIS.* $\delta_0 = + 19^\circ 27' 18''.6$														
Aug. 3 10	m.	s.	'	'	"	"	'	"	'	"	"	"	'	"
	16	7.4	50	5	1.2	8.9	55	5.05	55	34.59	27	13.76	-0 23.11 -0.99 +45.73 -17.12	27 18.3
	16	6.5	55	0	0.7	8.0	55	4.35	55	32.88	27	15.47	0 23.58 0.99 45.58 17.72	18.8
ω HERCULIS.* $\delta_0 = + 14^\circ 19' 47''.9$														
July 20 22 23 27	19	24.4	0	2	37.2	45.6	2	41.40	3	4.49	19	43.86	-0 29.95 -0.58 +47.52 -14.25	19 46.6
	19	25.0	0	2	37.3	45.8	2	41.55	3	4.38	19	43.97	0 30.26 0.58 47.22 14.45	45.9
	19	26.3	0	2	39.3	47.7	2	43.50	3	4.78	19	43.57	0 30.46 0.57 48.06 14.55	46.1
	19	22.8	0	2	36.0	42.0	2	39.00	3	5.59	19	42.76	0 29.67 0.61 48.31 14.95	45.8
Aug. 2 3	19	31.3	0	2	42.4	50.0	2	46.20	3	3.58	19	44.77	0 29.48 0.55 47.27 15.45	46.6
	19	28.9	0	2	38.9	46.3	2	42.60	3	3.23	19	45.12	0 29.12 0.46 45.73 15.55	45.7
α SCORPII. $\delta_0 = - 26^\circ 8' 43''.4$														
July 23 27	21	27.5	25	4	25.3	38.9	29	32.10	29	53.01	7	4.66	-2 24.07 -1.18 +48.06 -2.98	8 44.8
	21	35.2	25	4	38.3	50.0	29	44.15	29	56.41	7	8.06	2 20.40 1.18 48.31 2.88	44.2
η DRACONIS (seq.?) * $\delta_0 = + 61^\circ 48' 16''.0$														
Aug. 2 3 6	21	50.7	30	4	48.2	51.9	34	50.05	35	16.68	47	31.67	+0 19.53 +1.40 +47.27 -23.70	48 16.2
	22	23.0	35	0	7.1	9.9	35	8.50	35	14.70	47	33.65	0 19.28 0.81 45.73 23.80	15.7
	21	47.3	30	4	46.0	48.4	34	47.20	35	14.15	47	34.20	0 19.56 0.56 46.26 24.10	16.5
λ OPHIUCHI.* $\delta_0 = + 2^\circ 15' 57''.5$														
July 23 27	24	25.7	5	1	16.4	28.2	6	22.30	6	40.76	16	7.59	-0 48.12 -1.25 +48.06 -10.98	15 55.3
	25	0.9	5	2	0.3	12.9	7	06.60	6	38.64	16	9.71	0 46.90 1.23 48.31 11.38	58.5
Aug. 2 3 6 10	24	27.1	5	1	17.4	25.6	6	21.50	6	40.50	16	7.85	0 46.60 1.25 47.27 11.78	55.5
	24	21.1	5	1	8.2	16.1	6	12.15	6	39.44	16	8.91	0 46.00 1.24 45.73 11.78	55.6
	24	23.6	5	1	14.9	23.4	6	19.15	6	39.22	16	9.13	0 46.67 1.21 46.26 11.98	55.5
	24	21.7	5	1	57.2	65.7	6	14.75	6	38.82	16	9.53	0 46.94 1.23 45.58 12.18	54.8
τ SCORPII. $\delta_0 = - 27^\circ 56' 52''.2$														
July 23 Aug. 2	(28 23.1)	15	3	11.0	16.2	18	13.60	17	53.73	55	5.38	-2 38.26 -1.49 +48.06 -2.33	56 (59.4)	
	28 1.5	15	2	38.0	48.9	17	43.45	17	51.25	55	2.90	2 33.26 1.65 47.27 2.11	52.6	
A. DRACONIS.* $\delta_0 = + 69^\circ 2' 41''.6$														
Aug. 5 6 10	27	18.6	20	0	21.3	19.7	20	20.50	20	56.28	1	52.07	+0 27.45 +0.13 +45.73 -23.58	2 41.8
	27	6.3	20	0	16.4	20.0	20	18.20	20	58.44	1	49.91	0 27.84 -0.15 46.26 23.88	40.0
	28	16.3	20	0	48.5	47.1	20	47.80	20	55.03	1	53.32	0 28.00 +1.22 45.58 24.18	43.9
ζ OPHIUCHI. $\delta_0 = - 10^\circ 18' 19''.1$														
July 23 Aug. 2 3 5 6 10	30	0.9	40	0	4.6	15.0	40	9.80	40	32.72	17	44.37	-1 14.85 -1.82 +48.06 -7.02	18 20.0
	30	18.5	40	0	27.1	36.0	40	31.55	40	33.79	17	45.44	1 12.49 1.79 47.27 7.42	19.9
	30	1.1	40	0	2.9	12.2	40	7.55	40	32.97	17	44.62	1 11.57 1.83 45.73 7.42	19.7
	30	24.2	40	0	36.2	42.0	40	39.10	40	35.02	17	46.67	1 11.54 1.73 46.88 7.52	20.6
	30	23.2	40	0	36.5	44.9	40	40.70	40	33.19	17	44.84	1 12.58 1.72 46.26 7.52	20.4
	30	0.2	40	0	5.0	14.5	40	9.75	40	34.00	17	45.65	1 13.01 1.82 45.58 7.72	22.6

Date. 1871.		Right Ascension Wires.										Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.			
		1	2	3	4	5	6	7	8	9	10						11		
		24 SCORPII.										$\alpha_0 = 16^h 34^m 10^s.33$							
Aug.	2	^{s.} 10.7	^{s.} 12.8	^{s.} 15.0	^{s.} 19.4	^{s.} 21.6	^{s.} 23.8	^{s.} 25.9	^{s.} 28.0	^{s.} 32.3	^{s.} 34.6	^{s.} 36.6	^{s.} 23.70	+0.14	-15.39	+1.83	^{m.} 34 ^{s.} 10.28		
	5	11.5	13.7	15.8	20.2	22.4	24.5	26.7	28.8	33.1	35.2	37.3	24.47	0.19	16.26	1.87	10.27		
	6	8.0	10.3	12.4	16.6	18.8	20.9	23.1	25.3	29.6	31.7	33.8	20.96	0.15	12.63	1.88	10.36		
	10	9.2	11.3	13.5	17.8	20.0	22.1	24.3	26.3	30.7	32.8	35.1	22.10	0.16	13.86	1.92	10.32		
		ζ HERCULIS.*										$\alpha_0 = 16^h 36^m 27^s.72$							
Aug.	2	27.9	30.4	32.9	37.7	40.1	42.7	44.9	47.4	52.2	54.7	56.9	42.53	-0.33	-15.39	+0.85	36 27.66		
	3	28.1	30.6	33.0	37.8	40.2	42.7	45.0	47.5	52.2	54.8	57.0	42.63	0.34	15.53	0.87	27.63		
	5	28.8	31.3	33.8	38.5	41.0	43.2	45.8	48.2	53.0	55.4	57.9	43.35	0.37	16.26	0.90	27.62		
	6	25.0	27.6	30.1	34.8	37.3	39.8	42.0	44.6	49.4	51.9	54.3	39.71	0.34	12.63	0.92	27.66		
	10	26.3	28.8	31.2	36.1	38.5	40.9	43.3	45.7	50.6	53.4	55.3	40.92	0.36	13.86	0.98	27.68		
		η HERCULIS.*										$\alpha_0 = 16^h 38^m 30^s.52$							
Aug.	2	29.9	32.4	35.2	40.4	43.0	45.7	48.4	51.0	56.4	58.9	1.7	45.73	-0.43	-15.39	+0.61	38 30.52		
	5	30.7	33.3	35.9	41.3	43.9	46.6	49.3	51.9	57.2	59.8	2.5	46.58	0.48	16.26	-0.68	30.52		
	6	27.0	29.7	32.2	37.6	40.2	42.9	45.6	48.3	53.5	56.3	58.9	42.93	0.45	12.64	0.70	30.54		
	10	28.2	30.8	33.5	38.8	41.4	44.1	46.8	49.4	54.7	57.4	59.9	44.09	0.47	13.86	0.77	30.53		
	11	28.4	30.9	33.7	38.9	41.6	44.2	46.8	49.5	54.8	57.3	0.2	44.21	0.47	13.95	0.79	30.58		
		9 CAMELOPARDI L. C.*										$\alpha_0 = 4^h 41^m 20^s.21$							
Aug.	5	59.0	3.8	8.9	19.1	24.5	29.3	34.4	39.7	49.8	54.9	59.7	29.37	+1.33	-16.26	+5.90	41 20.34		
	6	55.4	0.8	5.6	16.3	20.8	26.0	31.0	36.2	46.3	51.1	56.4	25.99	1.23	12.64	5.84	20.42		
	13	57.3	2.7	8.0	18.3	22.9	28.0	33.3	38.6	48.4	53.5	58.4	28.13	1.29	14.46	5.37	20.33		
		GROOM. 2377.*										$\alpha_0 = 16^h 42^m 52^s.29$							
Aug.	2	46.3	50.2	54.0	1.4	5.3	8.9	12.8	16.6	24.1	27.9	31.6	9.01	-0.81	-15.39	-0.49	42 52.32		
	5	47.1	50.9	54.7	2.3	6.0	9.8	13.5	17.2	24.8	28.7	32.5	9.77	0.91	16.27	0.39	52.20		
	10	44.5	48.3	52.2	59.6	3.5	7.3	11.0	14.8	22.3	26.1	29.8	7.22	0.89	13.86	0.23	52.24		
	11	44.7	48.3	52.0	59.7	3.6	7.3	11.1	14.9	22.4	26.1	29.8	7.26	0.88	13.95	0.20	52.23		
	13	44.9	48.7	52.8	59.9	4.0	7.9	11.3	15.4	22.9	26.4	30.3	7.68	0.88	14.46	0.13	52.21		
		49 HERCULIS.*										$\alpha_0 = 16^h 46^m 15^s.22$							
Aug.	2	16.8	19.0	21.0	25.3	27.4	29.5	31.8	33.9	38.0	40.1	42.2	29.55	-0.15	-15.39	+1.25	46 15.26		
	5	17.6	19.8	22.0	26.2	28.3	30.4	32.5	34.7	38.8	40.9	43.0	30.38	0.17	16.27	1.28	15.22		
	6	13.9	16.0	18.3	22.4	24.7	26.8	28.9	31.1	35.3	37.3	39.5	26.75	0.16	12.64	1.29	15.24		
	10	15.3	17.3	19.5	23.6	25.9	27.9	30.1	32.2	36.4	38.6	40.7	27.95	0.17	13.86	1.35	15.27		
	11	...	...	...	23.8	25.8	28.1	30.2	32.3	...	...	...	28.04	0.17	13.95	1.36	15.28		
		ι OPHIUCHI.										$\alpha_0 = 16^h 47^m 57^s.17$							
Aug.	2	58.7	0.8	3.0	7.1	9.2	11.3	13.4	15.5	19.5	21.7	23.9	11.28	-0.11	-15.39	+1.33	47 57.11		
	5	59.6	1.7	3.8	7.9	10.0	12.1	14.2	16.3	20.5	22.6	24.7	12.13	0.12	16.27	1.36	57.10		
	6	55.9	57.9	0.2	4.4	6.5	8.6	10.6	12.7	16.8	18.9	21.0	8.50	0.11	12.64	1.37	57.12		
	13	57.7	59.8	1.9	6.1	8.2	10.3	12.3	14.5	18.5	20.6	22.7	10.24	0.12	14.46	1.47	57.13		

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.							
			A.	C.															
24 SCORPII. $\delta_0 = -17^\circ 29' 31''.6$																			
Aug. 2	34	7.3	50	0	59.9	69.7	51	4.80	51	25.74	28	37.39	-1	35.07	-1.77	+47.27	-5.09	29	32.0
5	34	14.1	50	1	10.1	18.6	51	14.35	51	27.63	28	39.28	1	33.82	1.73	46.88	5.12	33.0	
6	34	5.1	50	0	58.7	68.9	51	3.80	51	23.97	28	35.62	1	35.17	1.74	46.26	5.13	31.4	
10	34	3.7	50	0	55.4	65.1	51	0.25	51	23.74	28	35.39	1	35.71	1.73	45.58	5.17	32.4	
ζ HERCULIS.* $\delta_0 = +31^\circ 50' 9''.7$																			
Aug. 2	36	22.1	30	2	31.6	36.9	32	34.25	32	57.48	49	50.90	-0	10.31	+0.21	+47.27	-18.14	50	9.9
3	36	22.6	30	2	31.3	35.8	32	33.55	32	56.30	49	52.05	0	10.18	0.30	45.73	18.24	9.7	
5	36	25.0	30	2	35.8	38.2	32	37.00	32	57.92	49	50.43	0	10.17	0.30	46.88	18.54	8.9	
6																			
10	36	23.4	30	2	37.2	38.6	32	37.90	33	57.80	49	50.55	0	10.38	0.31	45.58	19.14	6.9	
η HERCULIS.* $\delta_0 = +39^\circ 10' 0''.9$																			
Aug. 2	38	26.7	10	2	50.2	53.8	12	52.00	13	11.73	9	36.62	-0	3.11	+0.37	+47.27	-19.57	10	1.6
5	38	19.9	10	2	41.9	45.0	12	43.45	13	11.27	9	37.08	0	3.07	0.35	46.88	19.97	1.3	
6	38	21.1	10	2	45.3	48.2	12	46.75	13	9.38	9	38.97	0	3.11	0.43	46.26	20.07	2.5	
10	38	23.8	10	2	45.7	49.8	12	47.75	13	8.82	9	39.53	0	3.13	0.45	45.58	20.47	2.0	
11	39	8.5	10	3	30.7	33.9	13	32.30	13	7.07	9	41.28	0	3.13	0.60	44.61	20.57	2.8	
9 CAMELOPARDI L. C.* $\delta_0 = +113^\circ 52' 43''.1$																			
Aug. 5																			
6	40	50.5	30	3	42.8	39.4	33	41.10	33	21.84	49	26.51	+2	41.44	+3.42	46.26	-18.08	52	39.6
13	41	2.8	30	3	37.9	32.3	33	35.10	33	21.39	49	26.96	2	43.71	3.06	44.67	18.28	40.1	
GROOM. 2377.* $\delta_0 = +57^\circ 0' 40''.2$																			
Aug. 2	42	26.7	20	2	15.5	18.2	22	16.85	22	47.66	0	0.69	+0	14.47	+0.63	+47.27	-21.37	0	41.7
5	43	5.2	20	2	45.0	45.0	22	45.00	22	48.35	0	0.00	0	14.27	1.27	46.88	21.77	40.7	
10	42	37.2	20	2	22.0	25.3	22	23.65	22	45.50	0	2.85	0	14.56	0.96	45.58	22.27	41.7	
11	43	33.3	20	3	4.2	5.3	23	4.75	22	45.74	0	2.61	0	14.59	1.19	44.61	22.37	40.6	
13	42	43.0	20	2	27.1	28.3	22	27.70	22	45.69	0	2.66	0	14.70	0.90	44.67	22.47	40.5	
49 HERCULIS.* $\delta_0 = +15^\circ 11' 26''.3$																			
Aug. 2	46	7.2	10	0	52.8	58.6	10	55.70	11	24.51	11	23.84	-0	28.47	-0.96	+47.27	-13.84	11	27.8
5	46	11.4	10	0	58.5	63.2	11	0.85	11	25.40	11	22.95	0	28.10	0.88	46.88	14.14	26.7	
6	46	5.0	10	0	52.9	59.8	10	56.35	11	24.38	11	23.97	0	28.48	0.91	46.26	14.24	26.6	
10	46	11.2	10	0	57.1	64.8	11	0.95	11	22.65	11	25.70	0	28.64	0.87	45.58	14.44	27.3	
11	46	38.4	10	1	33.3	38.5	11	35.90	11	22.46	11	25.89	0	28.72	0.68	44.61	14.54	26.6	
ι OPHIUCHI. $\delta_0 = +10^\circ 22' 40''.4$																			
Aug. 2	47	51.6	55	4	37.0	44.8	59	40.90	0	6.84	22	41.51	-0	34.61	-0.30	+47.27	-12.45	22	41.4
5	47	47.6	55	4	31.7	38.6	59	35.15	0	7.41	22	40.94	0	34.16	0.15	46.88	12.69	40.8	
6	47	47.1	55	4	33.3	41.2	59	37.25	0	5.43	22	42.92	0	34.63	0.14	46.26	12.78	41.6	
13	47	53.8	55	4	37.8	45.6	59	41.70	0	3.29	22	45.06	0	35.18	0.38	44.67	13.28	40.9	

Date. 1871.	Right Ascension Wires.											Seconds of transit over Mean Wire.	$n \tan \delta$ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
κ OPHIUCHI.* $a_0 = 16^h 51^m 36^s.56$																
Aug. 2	38.2	40.3	42.4	46.5	48.7	50.8	52.8	55.0	59.1	1.2	3.3	50.75	-0.10	-15.39	+1.32	m. 54 36.58
5	39.1	41.1	43.3	47.3	49.5	51.6	53.7	55.8	59.9	2.0	4.1	51.58	0.11	16.27	1.35	36.55
6	...	37.6	39.7	43.8	46.0	48.0	50.1	52.2	56.3	58.4	0.5	48.01	0.10	12.64	1.36	36.63
10	36.7	38.7	40.9	45.0	47.1	49.2	51.3	53.4	57.6	59.6	1.7	49.20	0.11	13.86	1.41	36.64
11	36.7	38.8	41.1	45.0	47.2	49.2	51.4	53.5	57.6	59.7	1.8	49.27	0.11	13.95	1.42	36.63
ϵ HERCULIS.* $a_0 = 16^h 55^m 23^s.58$																
Aug. 2	24.1	26.5	29.0	33.7	36.2	38.7	41.0	43.4	48.1	50.6	53.2	38.59	-0.32	-15.39	+0.78	55 23.66
5	25.0	27.4	29.8	34.6	37.0	39.4	41.8	44.3	49.0	51.4	53.8	39.41	0.36	16.27	0.81	23.59
10	22.4	24.9	27.3	32.0	34.6	37.0	39.4	41.7	46.5	49.0	51.3	36.92	0.35	13.86	0.89	23.60
11	22.6	24.9	27.4	32.2	34.6	37.0	39.2	41.8	46.7	49.1	51.4	36.99	0.35	13.95	0.91	23.60
13	23.0	25.3	27.8	32.6	35.1	37.4	39.8	42.2	46.8	49.4	51.7	37.37	0.35	14.46	0.95	23.51
ϵ URSÆ MINORIS.* $a_0 = 16^h 59^m 9^s.93$																
Aug. 5	9.3	24.5	39.6	10.5	25.6	41.0	55.7	10.9	41.6	56.5	12.1	40.75	-4.31	-16.27	-10.31	59 9.86
6	4.9	20.6	35.7	6.3	22.0	36.8	51.4	7.0	37.6	52.9	8.4	36.69	3.97	12.64	10.15	9.93
9	...	...	...	6.2	22.8	37.5	52.8	7.8	...	...	...	37.42	4.31	13.53	9.51	10.07
10	6.1	21.3	36.6	7.0	22.5	37.8	52.6	7.5	38.2	53.2	8.7	37.41	4.20	13.86	9.35	10.00
11	5.2	21.1	36.3	7.0	21.6	37.3	52.9	8.1	38.6	54.0	8.6	37.34	4.19	13.95	9.19	10.01
η OPHIUCHI. $a_0 = 17^h 3^m 2^s.25$																
Aug. 5	3.9	6.1	8.2	12.4	14.5	16.7	18.8	20.9	25.3	27.4	29.5	16.70	+0.14	-16.27	+1.70	3 2.27
10	...	...	...	10.0	12.1	14.2	16.4	18.6	...	...	...	14.26	0.14	13.86	1.76	2.30
13	2.1	4.1	6.2	10.5	12.7	14.8	16.9	19.1	23.3	25.5	27.6	14.80	0.14	14.46	1.79	2.27
GROOM. 2415.* $a_0 = 17^h 3^m 36^s.25$																
Aug. 6	32.5	35.3	38.2	43.5	46.3	48.9	51.6	54.4	59.8	2.5	5.1	48.92	-0.47	-12.64	+0.44	3 36.25
11	34.0	36.8	39.4	44.8	47.5	50.3	52.9	55.6	1.0	3.8	6.6	50.24	0.50	13.95	0.54	36.33
B. A. C. 5804. $a_0 = 17^h 6^m 55^s.30$																
Aug. 5	54.3	57.1	59.5	4.4	6.7	9.1	11.7	14.1	19.2	21.5	24.0	9.24	+0.36	-16.27	+1.92	6 55.25
6	51.0	53.4	55.7	0.7	3.3	5.7	8.1	10.6	15.6	17.9	20.4	5.67	0.33	12.64	1.93	55.29
9	51.7	54.3	56.8	1.7	4.0	6.4	8.8	11.3	16.1	18.9	21.3	6.48	0.36	13.53	1.97	55.28
11	52.1	54.5	57.1	2.1	4.6	7.1	9.4	11.9	16.7	19.2	21.6	6.94	0.35	13.95	1.99	55.33
13	52.5	55.1	57.5	2.4	4.9	7.3	9.8	12.4	17.2	19.6	22.0	7.34	0.34	14.46	2.02	55.24
α HERCULIS pr.* $a_0 = 17^h 8^m 48^s.69$																
Aug. 5	51.2	53.3	55.5	59.7	1.9	4.0	6.1	8.3	12.5	14.5	16.7	3.97	-0.16	-16.27	+1.18	8 48.72
6	47.5	49.8	51.9	56.3	58.1	0.3	2.4	4.5	8.7	10.8	13.0	0.30	0.15	12.64	1.19	48.70
9	48.3	50.7	52.8	56.8	59.1	1.2	3.3	5.5	9.8	11.9	13.6	1.18	0.16	13.53	1.22	48.71
10	48.6	50.8	52.9	57.2	59.3	1.4	3.6	5.7	10.0	12.1	14.2	1.44	0.16	13.86	1.23	48.65
11	...	...	...	57.3	59.4	1.6	3.7	5.8	...	...	...	1.56	0.16	13.95	1.24	48.69

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			A.	C.								
κ OPHIUCHI.* $\delta_0 = + 9^\circ 34' 32''.9$												
Aug. 2	51 33.0	45 2	47.2	54.9	47 51.05	48 14.42	34 33.93	-0 35.71	-0.70	+47.27	-11.89	34 32.9
5	51 34.9	45 2	49.0	55.7	47 52.35	48 14.39	34 33.96	0 35.24	0.58	46.88	12.19	32.8
6	51 32.0	45 2	49.3	57.6	47 53.45	48 14.57	34 33.78	0 35.71	0.57	46.26	12.29	31.5
10	51 33.5	45 2	47.8	56.3	47 52.05	48 12.77	34 35.58	0 35.92	0.57	45.58	12.49	32.2
11	51 30.6	45 2	43.5	50.2	47 46.85	48 11.53	34 36.82	0 36.02	0.60	44.61	12.59	32.2
ϵ HERCULIS.* $\delta_0 = + 31^\circ 6' 58''.4$												
Aug. 2	55 20.1	15 0	44.9	49.8	15 47.35	16 8.55	6 39.80	-0 11.04	-0.36	+47.27	-16.65	6 59.0
5	55 16.7	15 0	41.0	45.0	15 43.00	16 9.02	6 39.33	0 10.90	0.40	46.88	17.05	57.9
10	55 17.9	15 0	42.1	48.0	15 45.05	16 6.83	6 41.52	0 11.11	0.35	45.58	17.65	58.0
11	55 16.6	15 0	42.0	46.3	15 44.15	16 7.53	6 40.82	0 11.14	0.36	44.61	17.75	56.2
13	55 17.7	15 0	40.4	44.7	15 42.55	16 5.24	6 43.11	0 11.23	0.35	44.67	17.85	58.3
ϵ URSÆ MINORIS.* $\delta_0 = + 82^\circ 14' 38''.1$												
Aug. 5	57 9.0	5 3	57.0	54.6	8 55.80	9 23.19	13 25.16	+0 45.66	+0.84	+46.88	-20.47	14 38.1
6	57 50.5	5 4	5.9	4.7	9 5.30	9 24.47	13 23.88	0 46.26	1.73	46.26	20.57	37.6
9	60 49.2	5 4	38.0	37.0	9 37.50	9 24.54	13 23.81	0 45.55	2.29	45.98	20.77	36.9
10	57 35.7	5 4	0.7	0.6	9 0.65	9 22.56	13 25.79	0 46.53	1.46	45.58	21.07	38.3
11	58 52.8	5 4	17.8	15.1	9 16.45	9 24.48	13 23.87	0 46.67	2.43	44.61	21.17	36.4
η OPHIUCHI. $\delta_0 = - 15^\circ 33' 50''.4$												
Aug. 5	2 59.2	55 0	25.4	33.2	55 29.30	55 51.87	33 3.54	-1 27.12	-1.85	+46.88	-4.33	33 50.0
10	3 0.4	55 0	27.2	38.2	55 32.70	55 50.63	33 2.28	1 28.74	1.85	45.58	4.39	51.7
13	2 57.1	55 0	21.3	30.2	55 25.75	55 48.58	33 0.23	1 29.69	1.89	44.67	4.42	51.6
GROOM. 2415.* $\delta_0 = + 40^\circ 41' 4''.7$												
Aug. 6	3 26.2	40 1	46.0	48.3	41 47.15	42 10.20	40 38.15	-0 1.62	+0.24	+46.26	-18.08	41 4.9
11	3 30.7	40 1	46.8	48.3	41 47.55	42 7.35	40 41.00	0 1.64	0.27	44.61	18.68	5.6
B. A. C. 5804. $\delta_0 = - 33^\circ 23' 53''.5$												
Aug. 5	6 47.4	40 3	26.2	37.0	43 31.60	43 55.97	21 7.62	-3 31.68	-1.30	+46.88	+1.05	23 52.7
6	6 42.2	40 3	20.0	31.3	43 25.65	43 51.92	21 3.57	3 34.38	1.30	46.26	1.10	52.0
9	6 46.2	40 3	46.3	57.9	43 52.10	43 55.01	21 6.66	3 31.25	1.33	45.98	1.25	52.0
11	6 49.7	40 3	25.8	34.3	43 30.05	43 49.39	21 1.04	3 36.27	1.35	44.61	1.33	52.7
13	6 44.2	40 3	17.8	26.9	43 22.35	43 48.17	20 59.82	3 37.95	1.51	44.67	1.41	53.2
α HERCULIS pr.* $\delta_0 = + 14^\circ 32' 16''.9$												
Aug. 5	8 44.9	50 0	8.5	13.3	50 10.90	50 35.65	32 12.70	-0 28.91	-1.13	+46.88	-12.40	32 17.1
6	8 40.4	50 0	5.4	11.3	50 8.35	50 34.01	32 14.34	0 29.28	1.13	46.26	12.50	17.7
9	8 45.6	50 0	12.7	18.2	50 15.45	50 35.66	32 12.69	0 28.86	1.08	45.98	12.70	16.0
10	8 46.3	50 0	10.8	16.5	50 13.65	50 33.21	32 15.14	0 29.45	1.09	55.58	12.80	17.4
11	9 9.0	50 0	40.6	45.7	50 43.15	50 33.56	32 14.79	0 29.54	0.95	44.61	12.90	16.0

Date. 1871.	Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
π HERCULIS.* $a_0 = 17^h 10^m 35^s.43$																
Aug. 5	36.1	38.7	41.3	46.4	49.0	51.6	54.1	56.7	1.8	4.6	7.0	51.57	-0.45	-16.27	+0.52	10 35.37
6	32.4	35.1	37.6	42.8	45.4	47.9	50.6	53.1	58.2	0.8	3.3	47.93	0.41	12.64	0.54	35.42
9	33.4	36.0	38.5	43.7	46.2	48.8	51.1	53.9	59.1	1.7	4.3	48.79	0.45	13.53	0.59	35.40
13	34.1	36.6	39.3	44.5	47.0	49.6	52.2	54.8	59.8	2.5	5.0	49.58	0.43	14.46	0.66	35.35
17	35.0	37.7	40.2	45.4	48.0	50.6	53.0	55.7	0.8	3.4	6.0	50.53	0.43	15.51	0.77	35.36
θ OPHIUCHI. $a_0 = 17^h 14^m 9^s.01$																
Aug. 6	6.1	8.3	10.6	15.1	17.2	19.5	21.9	24.1	28.7	30.8	33.1	19.58	+0.22	-12.64	+1.79	14 8.95
10	7.1	9.4	11.6	16.3	18.6	20.8	23.0	25.4	29.8	32.0	34.3	20.76	0.24	13.86	1.83	8.97
18	9.0	11.1	13.4	18.1	20.4	22.6	24.9	27.1	31.7	33.9	36.1	22.57	0.23	15.73	1.94	9.01
19	9.2	11.4	13.7	18.3	20.4	22.9	25.0	27.2	31.8	33.9	36.3	22.73	0.21	15.85	1.95	9.04
22	9.8	12.0	14.4	18.9	21.1	23.6	25.7	27.9	32.5	34.7	37.1	23.43	0.19	16.68	2.00	8.94
w HERCULIS. $a_0 = 17^h 15^m 52^s.20$																
Aug. 5	53.5	56.0	58.6	3.4	5.4	8.3	10.8	13.2	18.0	20.4	22.8	8.22	-0.38	-16.27	+0.65	15 52.22
18	52.9	55.1	57.9	2.6	5.0	7.5	10.1	12.5	17.2	19.8	22.1	7.52	0.36	15.73	0.87	52.30
22	53.7	56.1	58.6	3.3	5.9	8.4	10.8	13.1	18.0	20.5	22.9	8.30	0.31	16.68	0.95	52.26
31	56.0	58.3	1.0	5.8	8.1	10.7	13.0	15.4	20.5	22.8	25.2	10.62	0.41	19.03	1.14	52.32
44 OPHIUCHI. $a_0 = 17^h 18^m 33^s.28$																
Aug. 6	30.4	32.7	34.9	39.4	41.8	43.9	46.1	48.5	52.9	55.1	57.3	43.91	+0.22	-12.64	+1.76	18 33.25
9	31.4	33.6	35.9	40.4	42.5	44.8	47.0	49.4	53.9	56.1	58.2	44.84	0.24	13.53	1.79	33.34
13	32.2	34.5	36.7	41.1	43.5	45.7	47.9	50.1	54.6	56.9	59.1	45.66	0.23	14.46	1.84	33.27
17	33.4	35.4	37.8	42.1	44.3	46.9	49.0	51.1	55.7	58.0	0.2	46.72	0.23	15.51	1.90	33.34
18	33.3	35.6	37.9	42.4	44.7	47.0	49.1	51.3	56.0	58.1	0.2	46.87	0.22	15.73	1.91	33.27
ν SCORPII. $a_0 = 17^h 22^m 3^s.74$																
Aug. 6	58.8	1.1	3.8	9.0	11.5	14.3	16.7	19.4	24.4	27.0	29.7	14.15	+0.38	-12.64	+1.91	22 3.80
9	59.2	1.9	4.7	9.8	12.4	15.0	17.5	20.1	25.1	27.8	30.3	14.89	0.42	13.53	1.94	3.72
10	59.7	2.4	4.9	10.2	12.7	15.3	17.8	20.4	25.6	28.3	30.8	15.28	0.41	13.86	1.96	3.79
13	0.6	2.9	5.6	10.7	13.3	15.9	18.3	21.0	26.3	28.8	31.3	15.88	0.40	14.46	2.00	3.82
18	1.7	4.1	6.8	11.9	14.6	17.1	19.7	22.2	27.4	30.0	32.6	17.10	0.38	15.73	2.07	3.82
λ SCORPII. $a_0 = 17^h 24^m 55^s.12$																
Aug. 6	50.0	52.6	55.1	0.5	3.0	5.5	8.1	10.6	15.7	18.4	20.9	5.49	+0.37	-12.64	+1.89	24 55.11
9	50.8	53.3	56.1	1.1	4.2	6.3	8.6	11.5	16.6	19.0	21.7	6.29	0.41	13.53	1.93	55.10
13	52.0	54.3	56.7	2.0	4.5	7.0	9.8	12.4	17.6	20.1	22.7	7.19	0.39	14.46	1.98	55.10
17	52.9	55.3	58.0	2.9	5.7	8.1	10.9	13.4	18.6	21.1	23.7	8.24	0.39	15.51	2.04	55.16
18	52.9	55.5	58.2	3.2	5.8	8.3	10.9	13.4	18.8	21.2	24.0	8.38	0.38	15.73	2.06	55.09
β DRACONIS.* $a_0 = 17^h 27^m 32^s.46$																
Aug. 9	26.9	30.1	33.6	40.4	43.8	47.1	50.4	53.8	0.5	4.0	7.4	47.09	-0.77	-13.53	-0.34	27 32.45
10	27.1	30.5	33.8	40.7	44.0	47.3	50.8	54.2	1.0	4.2	7.5	47.37	0.75	13.86	0.31	32.45
11	27.1	30.5	34.0	40.8	44.2	47.3	51.0	54.2	0.7	4.2	7.4	47.40	0.75	13.95	0.28	32.42
17	28.5	31.9	35.3	42.0	45.5	48.7	52.1	55.5	2.3	5.7	9.0	48.77	0.74	15.51	0.11	32.41
18	28.8	32.1	35.5	42.3	45.6	49.0	52.4	55.9	2.5	5.9	9.1	49.01	0.74	15.73	0.08	32.46

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			A.	C.								
π HERCULIS.* $\delta_0 = + 36^\circ 57' 17''.6$												
Aug. 5	10 24.0	25 0	23.9	26.8	25 25.35	25 54.87	56 53.48	-0 5.19	-0.32	+46.88	-16.68	57 18.2
6	10 26.3	25 0	29.3	34.1	25 31.70	25 54.80	56 53.55	0 5.27	0.22	46.26	16.78	17.5
9	10 28.2	25 0	30.6	34.5	25 32.55	25 54.58	56 53.77	0 5.19	0.20	45.98	17.28	17.1
13	10 29.0	25 0	29.0	31.7	25 30.35	25 52.38	56 55.97	0 5.35	0.24	44.67	17.68	17.4
17	10 30.8	25 0	31.7	34.2	25 32.95	25 54.03	56 54.32	0 5.31	0.22	45.55	18.08	16.3
θ OPHIUCHI. $\delta_0 = - 24^\circ 52' 9''.1$												
Aug. 6	14 12.9	10 3	17.4	28.5	13 22.95	43 31.09	20 42.74	-2 11.22	-1.46	+46.26	-1.09	52 10.2
10	14 2.5	10 3	1.9	12.1	13 7.00	43 29.10	20 40.75	2 11.97	1.34	45.58	1.02	9.5
18	14 48.1	10 3	53.2	65.2	13 59.20	43 28.23	20 39.88	2 12.16	1.29	44.93	0.89	9.3
19	14 6.5	10 3	4.1	15.4	13 9.75	43 29.54	20 41.19	2 14.27	1.53	48.10	0.88	9.8
22	14 3.7	10 3	1.2	6.8	13 4.00	43 27.93	20 39.58	2 16.08	1.51	48.20	0.84	9.8
w HERCULIS. $\delta_0 = + 32^\circ 38' 1''.1$												
Aug. 5	15 50.4	40 4	46.3	50.1	44 48.20	45 8.38	37 39.97	-0 9.40	+0.67	+46.88	-15.48	38 2.6
18	15 47.7	40 4	41.5	46.3	44 43.90	45 6.11	37 42.24	0 9.59	0.39	44.93	17.04	0.9
22	15 49.4	40 4	46.5	46.9	44 46.70	45 8.01	37 40.34	0 9.87	0.41	48.20	17.39	1.7
31	15 51.8	40 4	47.5	45.8	44 46.65	45 7.85	37 40.50	0 9.65	0.27	47.52	18.25	0.4
44 OPHIUCHI. $\delta_0 = - 24^\circ 3' 16''.8$												
Aug. 6	18 23.0	20 4	14.3	25.6	24 19.95	24 45.50	1 57.15	-2 6.40	-1.01	+46.26	-1.21	3 19.5
9	19 2.9	25 0	0.3	10.6	25 5.45	24 43.20	1 54.85	2 4.76	2.08	45.98	1.11	16.8
13	18 29.6	20 4	16.1	24.3	24 20.20	24 39.88	1 51.53	2 8.58	1.29	44.67	1.11	17.8
17	18 29.1	20 4	18.6	25.9	24 22.25	24 43.77	1 55.42	2 7.65	1.26	45.55	1.01	19.8
18	18 30.1	20 4	17.1	28.8	24 22.95	24 43.49	1 55.14	2 7.35	1.28	44.93	0.91	19.7
ν SCORPIL. $\delta_0 = - 37^\circ 11' 28''.0$												
Aug. 6	22 6.0	25 4	57.8	71.3	30 4.55	30 13.19	7 24.84	-4 50.20	-1.06	+46.26	+2.65	11 27.2
9	21 56.9	25 4	49.2	61.3	29 55.25	30 14.87	7 26.52	4 51.86	1.03	45.58	2.92	30.9
13	22 0.5	25 4	45.7	58.3	29 52.00	30 8.42	7 20.07	4 55.19	1.07	44.67	3.11	28.6
18	21 54.3	25 4	40.8	57.0	29 48.90	30 13.21	7 24.86	4 52.39	1.29	44.93	3.38	30.2
λ SCORPIL. $\delta_0 = - 37^\circ 0' 25''.3$												
Aug. 6	24 46.8	15 4	52.0	65.3	18 58.65	19 18.64	56 30.29	-4 45.47	-1.26	+46.26	+2.71	0 28.0
9	24 41.3	15 3	44.1	56.5	18 50.30	19 17.02	56 28.67	4 41.90	1.21	45.98	2.91	22.9
13	25 3.7	15 4	3.4	16.0	19 9.70	19 13.44	56 25.09	4 50.37	1.54	44.67	3.17	29.2
17	24 51.0	15 3	54.2	64.4	18 59.30	19 17.68	56 29.33	4 48.36	1.50	45.55	3.37	30.3
18	24 46.5	15 3	49.6	62.2	18 55.90	19 19.30	56 30.95	4 47.62	1.47	44.93	3.42	31.7
β DRACONIS.* $\delta_0 = + 50^\circ 23' 48''.6$												
Aug. 9	27 20.7	55 4	14.8	17.8	59 16.30	59 38.04	23 10.31	+0 9.68	+1.29	+45.98	-17.44	23 49.8
10	27 19.4	55 4	14.2	14.3	59 14.25	59 37.13	23 11.22	0 9.85	1.26	45.58	17.64	50.3
11	27 21.3	55 4	15.0	13.2	59 14.10	59 35.42	23 12.93	0 9.89	1.29	44.61	17.74	51.0
17	27 22.0	55 4	14.8	13.9	59 14.35	59 36.24	23 12.11	0 9.89	1.02	45.55	18.64	49.9
18	27 19.9	55 4	12.8	12.9	59 12.85	59 36.62	23 11.73	0 9.88	0.98	44.93	18.74	48.8

Date.	Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
1871.	1	2	3	4	5	6	7	8	9	10	11					
<i>a</i> OPHIUCHI.* $a_0 = 17^h 28^m 59^s.58$																
Aug. 6	58.6	0.8	2.9	7.0	9.2	11.3	13.4	15.4	19.8	21.8	23.9	11.28	-0.13	-12.64	+1.13	28 59.64
9	...	...	...	7.9	10.0	12.1	14.2	16.4	...	...	...	12.12	0.14	13.53	1.16	59.61
18	...	...	...	10.0	12.1	14.2	16.3	18.5	...	...	...	14.22	0.13	15.73	1.28	59.64
19	1.8	3.9	6.0	10.2	12.3	14.6	16.7	18.7	22.8	24.9	27.1	14.45	0.13	15.85	1.29	59.76
31	4.5	6.7	8.9	13.0	15.2	17.3	19.5	21.5	25.8	27.9	30.0	17.30	0.15	19.03	1.48	59.60
μ OPHIUCHI. $a_0 = 17^h 30^m 53^s.29$																
Aug. 6	51.9	54.0	56.1	0.3	2.3	4.4	6.4	8.5	12.7	14.7	16.8	4.37	+0.06	-12.65	+1.48	30 53.26
9	53.0	5	57.0	1.1	3.1	5.1	7.2	9.3	13.5	15.5	17.6	5.22	0.06	13.54	1.51	53.25
17	54.8	56.8	58.8	3.0	5.0	7.0	9.1	11.2	15.4	17.7	19.6	7.13	0.06	15.52	1.60	53.27
58 OPHIUCHI. $a_0 = 17^h 35^m 45^s.64$																
Aug. 6	43.1	45.3	47.7	52.0	54.3	56.4	58.7	0.9	5.3	7.5	9.7	56.45	+0.19	-12.65	+1.65	35 45.64
9	44.2	46.3	48.8	52.8	55.0	57.1	59.4	1.8	6.2	8.3	10.6	57.32	0.21	13.54	1.68	45.67
10	44.5	46.6	48.8	53.1	55.5	57.7	59.8	2.0	6.4	8.8	10.9	57.65	0.21	13.87	1.69	45.68
11	44.5	46.8	48.9	53.3	55.6	57.8	0.1	2.2	6.6	8.8	11.0	57.78	0.20	13.95	1.70	45.73
17	45.7	48.0	50.3	54.7	57.0	59.1	1.4	3.5	8.0	10.1	12.4	59.11	0.20	15.52	1.77	45.56
ω DRACONIS.* $a_0 = 17^h 37^m 42^s.11$																
Aug. 6	24.7	30.2	36.1	47.5	53.2	58.8	4.7	10.4	21.6	27.2	33.0	58.86	-1.40	-12.65	-2.73	37 42.08
9	25.7	31.1	36.5	48.3	54.0	59.7	5.5	11.0	22.6	28.2	33.8	59.67	1.52	13.54	2.58	42.03
18	27.1	32.8	38.6	50.1	55.7	1.3	7.1	12.8	24.1	29.8	35.5	1.36	1.40	15.74	2.11	42.11
22	27.8	33.3	39.1	50.5	56.2	2.2	7.6	13.3	24.7	30.5	36.0	1.93	1.20	16.69	1.88	42.16
31	30.0	35.6	41.3	53.0	58.3	4.0	9.7	15.2	26.8	32.5	38.0	4.04	1.62	19.04	1.36	42.02
3 SAGITTARI. $a_0 = 17^h 39^m 30^s.15$																
Aug. 22	31.6	33.1	35.6	40.0	42.4	44.7	47.0	49.6	54.0	56.4	58.8	44.84	+0.22	-16.69	+1.90	39 30.27
Sept. 1	34.3	35.7	38.0	42.6	45.0	47.3	49.6	51.9	56.5	58.8	1.1	47.32	0.31	19.38	2.06	30.31
3	...	...	...	43.0	45.5	48.0	50.2	52.6	...	...	...	47.86	0.28	19.92	2.09	30.31
10	35.5	37.7	40.1	44.8	47.3	49.4	51.8	54.1	58.8	1.1	3.4	49.45	0.22	21.63	2.22	30.26
μ HERCULIS.* $a_0 = 17^h 41^m 26^s.98$																
Aug. 22	29.0	31.2	33.7	38.3	40.7	43.0	45.2	47.7	52.1	54.6	57.0	42.96	-0.26	-16.69	+0.92	41 26.93
Sept. 3	32.0	34.3	36.7	41.4	43.7	46.0	48.3	50.7	55.2	57.7	0.0	46.00	0.31	19.92	1.15	26.92
7	33.3	35.5	37.9	42.4	44.9	47.3	49.6	51.9	56.5	58.8	1.0	47.19	0.31	21.17	1.23	26.94
ψ DRACONIS Austr.* $a_0 = 17^h 44^m 13^s.06$																
Aug. 22	53.7	0.3	7.3	21.0	27.3	34.3	40.9	47.9	1.0	7.6	14.8	34.19	-1.45	-16.69	-2.75	44 13.30
28	55.1	1.3	8.5	21.1	28.2	35.0	41.7	48.6	1.9	8.4	14.8	34.96	1.60	17.99	2.33	13.04
31	55.4	2.2	9.5	22.6	29.6	36.1	43.0	49.6	3.0	9.8	16.7	36.14	1.96	19.04	2.52	13.02
Sept. 1	56.1	2.5	9.4	23.0	29.8	36.5	42.7	50.2	3.3	10.1	16.8	36.40	1.98	19.38	2.03	13.01
3	56.2	3.0	9.7	23.1	29.9	36.4	43.3	50.1	3.3	10.3	17.3	36.60	1.78	19.92	1.90	13.00
Pl. XVII. 289. $a_0 = 17^h 47^m 54^s.70$																
Aug. 22	5.0	7.9	10.6	16.0	18.6	21.1	23.8	26.6	32.0	34.7	37.3	21.24	-0.40	-16.69	+0.50	47 04.65
28	56.5	59.1	2.0	7.1	9.9	12.7	15.2	17.9	23.1	26.0	28.7	12.55	0.44	17.99	0.63	54.75
31	7.3	10.0	12.8	18.0	21.0	23.5	26.1	28.9	34.2	37.0	39.8	23.51	0.54	19.04	0.71	04.64
Sept. 3	58.4	1.0	3.8	9.1	11.8	14.5	17.1	20.0	25.4	28.0	30.7	14.51	0.49	19.92	0.78	54.88

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.							
			A.	C.															
<i>a</i> OPHIUCHI.* $\delta_0 = + 12^\circ 39' 18''.5$																			
Aug. 6	m. 28	s. 54.4	40	3	7.0	14.8	43	10.90	43	32.97	39	15.38	-0	31.65	-0.41	+46.26	-10.41	39	19.2
9	29	18.8	40	3	38.3	45.6	43	41.95	43	33.20	39	15.15	0	31.28	0.26	45.98	10.71		18.9
18	29	21.3	40	3	37.3	45.8	43	41.55	43	32.28	39	16.07	0	31.91	0.48	44.93	11.51		17.1
19	28	57.8	40	3	8.0	14.8	43	11.40	43	33.21	39	15.14	0	32.42	0.70	48.10	11.61		18.5
31	.....																	.....	
<i>\mu</i> OPHIUCHI. $\delta_0 = - 8^\circ 2' 18''.7$																			
Aug. 6	30	45.2	20	4	10.1	21.5	24	15.80	24	41.25	1	52.90	-1	6.94	-0.74	+46.26	-5.08	2	19.4
9	31	29.4	25	0	8.1	17.0	24	12.55	24	40.74	1	52.39	1	6.17	0.77	45.98	5.20		18.5
17	31	24.4	20	4	57.3	65.2	25	1.25	24	38.32	1	49.97	1	7.66	1.81	45.55	5.41		19.3
58 OPHIUCHI. $\delta_0 = - 21^\circ 37' 5''.3$																			
Aug. 6	35	38.5	55	3	16.1	29.3	58	22.70	58	45.00	35	56.65	-1	53.04	-1.24	+46.26	-1.14	37	5.8
9	35	32.0	55	3	7.5	19.3	58	13.40	58	44.92	35	56.57	1	51.83	1.20	45.98	1.10		4.7
10	35	42.2	55	3	20.7	30.9	58	25.80	58	45.11	35	56.76	1	53.69	1.22	45.58	1.08		7.2
11	35	42.1	55	3	19.3	29.2	58	24.25	58	43.81	35	55.46	1	54.19	1.23	44.61	1.06		7.3
17	35	40.1	55	3	17.0	25.2	58	21.10	58	44.77	35	56.42	1	54.28	1.42	45.55	0.98		7.6
<i>\omega</i> DRACONIS.* $\delta_0 = + 68^\circ 48' 59''.9$																			
Aug. 6	37	45.9	30	4	40.5	39.5	34	40.00	34	46.24	48	2.11	+0	27.58	+2.17	46.26	-16.44	48	61.7
9	37	22.3	30	4	28.4	26.0	34	27.20	34	45.29	48	3.06	0	27.29	1.90	45.98	16.94		61.3
18	37	17.0	30	4	22.0	21.3	34	21.65	34	43.08	48	5.27	0	27.82	1.50	44.93	18.24		61.3
22	37	6.4	30	4	21.6	16.5	34	19.05	34	45.90	48	2.45	0	27.90	1.31	48.20	18.84		61.0
31	37	12.6	30	4	24.3	17.1	34	20.70	34	45.57	48	2.78	0	28.00	1.25	47.52	19.94		59.6
3 SAGITTARI. $\delta_0 = - 27^\circ 46' 45''.8$																			
Aug. 22	40	4.3	5	3	3.3	10.3	8	6.80	7	43.72	44	55.37	-2	37.58	-1.74	+48.20	+1.24	46	45.2
Sept. 1	39	27.9	5	2	17.1	25.0	7	21.05	7	43.91	44	55.56	2	37.91	1.61	49.97	1.50		43.6
3	39	31.9	5	2	22.5	29.8	7	26.15	7	45.10	44	56.75	2	35.79	1.63	48.15	1.54		44.5
10	39	29.1	5	2	19.3	24.9	7	22.10	7	46.14	44	57.79	2	36.79	1.61	48.10	1.64		46.4
<i>\mu</i> HERCULIS.* $\delta_0 = + 27^\circ 47' 49''.5$																			
Aug. 22	41	23.9	30	4	56.3	56.6	34	56.45	35	18.95	47	29.40	-0	14.95	+0.26	+48.20	-14.75	47	48.2
Sept. 3	42	5.3	35	0	37.8	39.7	35	38.75	35	15.89	47	32.46	0	14.78	-0.58	48.15	15.65		49.6
7	41	27.3	30	4	53.0	56.1	34	54.55	35	18.12	47	30.23	0	14.43	+0.09	47.87	15.75		48.0
<i>\psi</i> DRACONIS Austr.* $\delta_0 = + 72^\circ 12' 39''.1$																			
Aug. 22	43	47.3	10	0	57.1	51.1	10	54.10	11	13.28	11	35.07	+0	32.94	+0.99	+48.20	-18.35	12	38.8
28	45	22.5	10	1	34.3	27.5	11	30.90	11	11.48	11	36.87	0	32.35	1.10	46.85	19.15		38.0
31	43	53.9	10	0	56.0	48.9	10	52.45	11	9.70	11	38.65	0	32.28	1.03	47.52	19.35		40.1
Sept. 1	43	51.1	10	0	56.8	51.4	10	54.10	11	12.58	11	35.77	0	33.01	0.99	49.97	19.45		40.3
3	45	28.6	10	1	35.2	28.3	11	31.75	11	10.49	11	37.86	0	32.56	0.99	48.15	19.65		39.9
PI. XVII. 289. $\delta_0 = + 40^\circ 0' 38''.7$																			
Aug. 22	46	58.2	15	1	34.4	33.4	16	33.90	16	57.48	5	50.87	-0	2.39	+0.07	+48.20	-16.07	(6	20.7)
28	47	50.3	20	2	15.9	11.3	22	13.60	22	36.36	0	11.99	0	2.34	0.21	46.85	16.70		0 40.1
31	47	3.9	15	1	36.3	34.5	16	35.40	16	55.50	5	52.85	0	2.34	+0.06	47.52	16.97	(6	21.1)
Sept. 3	47	50.6	20	2	12.2	16.8	22	14.50	22	39.00	0	9.35	0	2.36	0.12	48.15	17.18		0 38.1

Date.	Right Ascension Wires.											Seconds of transit over Mean Wire.	$n \tan \delta$ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
1871.	1	2	3	4	5	6	7	8	9	10	11					
89 HERCULIS. $a_0 = 17^h 50^m 15^s.35$																
Aug. 22	17.6	20.0	22.2	26.7	29.1	31.3	33.5	35.9	40.5	42.8	45.0	31.33	-0.24	-16.69	+0.93	50 15.33
28	18.9	21.0	23.3	28.0	30.3	32.6	34.9	37.1	41.7	44.1	46.3	32.56	0.26	17.99	1.03	15.34
31	20.0	22.1	24.5	29.1	31.4	33.7	36.0	38.5	42.7	45.0	47.4	33.67	0.32	19.04	1.09	15.40
Sept. 3	...	...	...	29.8	32.1	34.4	36.7	39.0	...	...	...	34.40	0.29	19.92	1.15	15.34
γ DRACONIS.* $a_0 = 17^h 53^m 38^s.09$																
Aug. 22	35.5	39.0	42.2	48.8	52.2	55.5	58.8	2.0	8.8	11.9	15.0	55.43	-0.59	-16.69	-0.12	53 38.03
28	37.0	39.8	43.3	50.0	53.4	56.7	0.0	3.2	9.9	13.0	16.2	56.59	0.65	17.99	+0.08	38.03
31	37.7	41.0	44.3	51.0	54.4	57.7	0.9	4.3	10.9	14.1	17.4	57.61	0.80	19.04	+0.16	37.93
Sept. 1	38.0	41.5	44.7	51.4	54.7	57.9	1.2	4.3	11.0	14.5	17.7	57.90	0.81	19.38	+0.18	37.89
35 DRACONIS.* $a_0 = 17^h 55^m 10^s.68$																
Aug. 28	...	...	...	16.9	26.5	35.7	44.6	53.6	...	...	...	35.46	-2.21	-17.99	-4.24	55 11.02
31	...	...	...	18.1	27.1	36.3	45.9	55.0	...	...	...	36.48	2.72	19.04	3.94	10.78
Sept. 3	42.1	51.1	0.2	18.2	28.0	36.4	45.7	55.3	13.0	22.3	31.7	36.55	2.47	19.92	3.63	10.71
10	...	...	...	19.2	28.2	37.1	46.5	55.6	...	...	...	37.32	2.01	21.63	2.89	10.79
γ^2 SAGITTARI. $a_0 = 17^h 57^m 35^s.17$																
Aug. 31	37.6	40.0	42.4	47.2	49.5	51.8	54.2	56.8	1.7	3.9	6.1	51.93	+0.34	-19.04	+1.97	57 35.20
Sept. 1	...	...	...	47.7	50.0	52.2	54.7	56.9	...	...	...	52.30	0.35	19.38	1.98	35.25
7	39.5	41.7	44.2	49.1	51.6	53.7	56.3	58.5	3.5	5.8	8.2	53.83	0.30	21.17	2.09	35.05
Pl. XVII. 359. $a_0 = 17^h 59^m 58^s.46$																
Aug. 31	1.4	3.8	6.1	10.9	13.1	15.6	17.9	20.1	24.9	27.1	29.6	15.50	+0.31	-19.04	+1.94	59 58.71
Sept. 3	2.2	4.6	7.0	11.7	14.0	16.3	18.7	20.9	25.7	28.0	30.3	16.31	0.28	19.92	1.99	58.66
6	3.0	5.4	7.7	12.4	14.7	17.0	19.4	21.8	26.4	28.7	31.0	17.05	0.29	20.74	2.04	58.64
7	3.4	5.7	8.0	12.7	15.1	17.4	19.8	22.0	26.8	29.2	31.5	17.42	0.28	21.17	2.06	58.59
α HERCULIS.* $a_0 = 18^h 2^m 32^s.97$																
Aug. 31	37.5	39.8	42.1	46.7	49.1	51.4	53.9	56.1	0.9	3.0	5.4	51.44	-0.36	-19.04	+0.95	2 32.99
Sept. 1	37.6	40.1	42.4	47.0	49.5	51.7	54.1	56.5	1.1	3.3	5.6	51.72	0.36	19.33	0.97	32.95
3	38.1	40.6	43.0	47.7	50.0	52.4	54.7	57.0	1.7	4.0	6.3	52.32	0.32	19.92	1.01	33.09
6	38.8	41.2	43.6	48.2	50.7	53.0	55.4	57.7	2.4	4.7	7.0	52.97	0.33	20.74	1.07	32.97
22 H. CAMELOP. L. C.* $a_0 = 6^h 4^m 44^s.18$																
Sept. 2	21.7	27.6	33.4	25.0	50.8	56.7	2.6	8.6	19.9	26.0	31.7	56.73	+1.26	-19.67	+5.75	4 44.07
7	23.7	29.2	34.9	46.9	52.7	58.4	4.2	10.2	21.8	27.4	33.3	58.43	1.49	21.17	5.36	44.11
10	24.7	30.2	36.3	47.9	53.6	59.5	5.2	11.3	22.8	28.5	34.5	59.50	1.23	21.63	5.13	44.23
μ SAGITTARI. $a_0 = 18^h 6^m 6^s.49$																
Aug. 31	10.4	12.6	14.7	19.0	21.3	23.7	25.8	28.0	32.3	34.8	36.9	23.59	+0.22	-19.04	+1.80	6 6.57
Sept. 3	11.2	13.4	15.7	20.1	22.3	24.4	26.8	28.9	33.3	35.6	37.7	24.49	0.20	19.92	1.88	6.65
6	12.0	14.1	16.3	20.8	23.0	25.2	27.4	29.7	34.0	36.2	38.4	25.19	0.20	20.74	1.90	6.55

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.							
			A.	C.															
89 HERCULIS. $\delta_0 = + 26^\circ 4' 18''.8$																			
Aug. 22	m. 50	s. 8.5	15	3	19.2	20.5	18	19.85	18	47.27	4	1.08	-0	16.81	-0.15	+48.20	-13.41	4	18.9
28	50	15.6	15	3	24.9	25.8	18	25.35	18	45.79	4	2.56	0	16.52	0.08	46.85	13.94		18.9
31	50	11.9	15	3	22.0	20.8	18	21.40	18	47.62	4	0.73	0	16.48	0.24	47.52	14.17		17.4
Sept. 3	50	42.0	15	3	54.2	55.7	18	54.95	18	45.81	4	2.54	0	16.63	0.06	48.15	14.36		19.6
γ DRACONIS.* $\delta_0 = + 51^\circ 30' 16''.7$																			
Aug. 22	53	27.4	50	2	50.6	47.4	52	49.00	53	12.33	29	36.02	+0	9.23	+0.70	+48.20	-16.89	30	17.3
28	53	30.0	50	2	49.6	45.2	52	47.40	53	9.57	29	38.78	0	9.07	0.71	46.85	17.59		17.8
31	53	26.0	50	2	47.7	42.4	52	45.05	53	11.38	29	36.97	0	9.05	-0.55	47.52	17.89		15.1
Sept. 1	53	29.4	50	2	47.3	46.1	52	46.70	53	10.45	29	37.90	0	9.25	0.60	49.97	17.99		18.5
35 DRACONIS.* $\delta_0 = + 76^\circ 58' 40''.4$																			
Aug. 28	56	5.2	25	0	31.2	26.7	25	28.95	25	20.00	57	28.35	+0	38.26	+1.30	+46.85	-17.58	58	37.2
29	56	25.7	25	0	37.4	30.4	25	33.90	25	19.06	57	29.29	0	38.85	1.14	47.52	17.90		38.9
Sept. 3	55	11.2	25	0	13.8	8.2	25	11.00	25	18.62	57	29.73	0	39.17	1.30	48.15	18.18		40.2
γ^2 SAGITTARI. $\delta_0 = - 30^\circ 25' 21''.8$																			
Aug. 31	57	33.9	45	0	34.0	40.9	45	37.45	45	58.23	23	9.88	-2	59.58	-2.07	+47.52	+2.96	25	21.1
Sept. 1	58	19.5	45	1	23.0	31.1	46	27.05	45	55.65	23	7.30	3	3.47	1.85	49.97	3.06		19.6
7	57	33.0	45	0	31.0	39.4	45	35.20	45	59.21	23	10.86	2	57.48	2.05	47.87	3.26		19.3
Pl. XVII. 359. $\delta_0 = - 28^\circ 28' 8''.0$																			
Aug. 31	59	57.2	45	3	39.4	46.1	48	42.75	49	4.29	26	15.94	-2	40.50	-1.56	+47.52	+2.61	28	7.9
Sept. 3	59	53.4	45	3	31.6	38.1	48	34.85	49	1.80	26	13.45	2	41.76	1.53	48.15	2.69		5.9
6	59	59.5	45	3	37.1	46.1	48	41.60	49	2.66	26	14.31	2	38.59	1.56	47.87	2.78		3.8
$\circ$ HERCULIS.* $\delta_0 = + 28^\circ 44' 46''.9$																			
Aug. 31	2	30.1	35	2	56.9	58.0	37	57.45	38	22.45	44	25.90	-0	13.67	-0.19	+47.52	-13.79	44	45.8
Sept. 1	2	25.8	35	2	51.0	53.0	37	52.00	38	22.52	44	25.83	0	13.97	0.26	49.97	13.87		47.7
3	2	30.9	35	2	55.8	57.3	37	56.55	38	21.66	44	26.69	0	13.78	0.19	48.15	14.07		46.8
6	2	35.8	35	3	0.8	1.8	38	1.30	38	21.49	44	26.86	0	13.49	0.15	47.63	14.27		46.6
22 H. CAMELOPARDI L. C.* $\delta_0 = + 110^\circ 38' 23''.2$																			
Sept. 2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
μ SAGITTARI. $\delta_0 = - 21^\circ 5' 23''.2$																			
Aug. 31	6	5.2	25	1	40.3	47.0	26	43.65	27	6.63	4	18.28	-1	52.34	-1.79	+47.52	+0.43	5	24.5
Sept. 3	6	4.5	25	1	37.6	44.1	26	40.85	27	5.83	4	17.48	1	53.18	1.78	48.15	0.53		23.8
6	6	6.9	25	1	44.8	48.9	26	46.85	27	9.71	4	21.36	1	50.89	1.78	47.63	0.63		25.8

Date. 1871.	Right Ascension Wires.											Seconds of transit over Mean Wire.	$n \tan \delta$ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
η SAGITTARII. $a_0 = 18^h 8^m 57^s.85$																
Aug. 31	59.1	1.7	4.4	9.6	12.0	14.7	17.2	19.8	24.9	27.6	30.0	14.64	+0.44	-19.04	+2.00	8 58.04
Sept. 1	59.5	1.8	4.5	9.7	12.2	15.0	17.3	20.0	25.2	27.8	30.0	14.82	0.45	19.38	2.02	57.91
2	59.9	2.3	5.0	10.0	12.7	15.3	17.9	20.6	25.4	28.0	30.6	15.24	0.32	19.67	2.04	57.93
6	0.8	3.3	5.9	11.2	13.7	16.3	18.8	21.3	26.5	29.0	31.6	16.22	0.40	20.74	2.11	57.99
δ SAGITTARII. $a_0 = 18^h 12^m 47^s.95$																
Sept. 2	51.2	53.6	56.0	0.7	3.1	5.4	7.9	10.1	14.8	17.3	19.9	5.45	+0.24	-19.67	+1.91	12 47.93
3	51.3	53.7	56.3	0.9	3.2	5.7	8.1	10.4	15.3	17.6	20.0	5.68	0.30	19.92	1.93	47.99
6	52.3	54.6	56.9	1.7	4.1	6.5	8.8	11.3	16.0	18.3	20.7	6.47	0.30	20.74	1.98	48.01
7	52.6	55.0	57.4	2.2	4.6	6.9	9.2	11.8	16.4	18.5	21.1	6.88	0.29	21.17	2.00	48.00
η SERPENTIS.* $a_0 = 18^h 14^m 41^s.19$																
Sept. 2	47.0	49.0	51.1	55.1	57.3	59.3	1.5	3.4	7.6	9.6	11.8	59.34	+0.01	-19.67	+1.51	14 41.19
6	48.0	50.1	52.2	56.3	58.4	0.4	2.4	4.5	8.6	10.7	12.7	0.39	0.01	20.74	1.57	41.23
7	...	...	...	56.8	58.9	0.7	2.8	5.0	...	...	...	0.84	0.01	21.17	1.59	41.27
δ URSÆ MINORIS.* $a_0 = 18^h 13^m 37^s.54$																
Aug. 31	...	...	...	19.8	55.0	29.6	4.6	39.1	...	...	...	29.62	-10.57	-19.04	-22.48	13 37.53
Sept. 1	1.2	35.6	11.8	21.4	55.0	29.6	4.8	39.4	48.6	23.6	57.1	29.83	10.76	19.38	22.12	37.57
7	...	...	...	...	...	...	...	37.3	46.0	21.1	...	27.55	9.46	21.17	19.70	37.22
10	57.1	31.9	6.7	15.4	50.8	25.1	0.0	35.5	44.0	18.6	53.2	25.30	7.82	21.63	18.38	37.47
109 HERCULIS.* $a_0 = 18^h 18^m 14^s.61$																
Sept. 2	20.1	22.3	24.6	29.0	31.1	33.4	35.7	38.0	42.3	44.5	46.7	33.43	-0.20	-19.67	+1.07	18 14.63
3	20.4	22.5	24.8	29.2	31.6	33.7	35.9	38.1	42.5	44.7	47.0	33.67	0.24	19.92	1.09	14.60
6	21.1	23.4	25.5	29.9	32.3	34.3	36.7	38.9	43.2	45.4	47.6	34.39	0.24	20.74	1.14	14.55
7	21.5	23.6	26.0	30.3	32.7	34.9	37.0	39.2	43.7	46.0	48.1	34.82	0.24	21.17	1.16	14.57
10	...	...	...	31.0	33.0	35.2	37.4	39.7	...	...	...	35.26	0.20	21.63	1.21	14.64
δ DRACONIS.* $a_0 = 18^h 22^m 2^s.30$																
Sept. 3	0.0	3.8	8.0	15.9	19.9	23.8	27.5	31.8	39.6	43.7	47.5	23.77	-0.95	-19.92	-0.49	22 2.41
6	0.7	4.7	8.7	16.5	20.4	24.4	28.4	32.2	40.2	44.2	48.0	24.40	0.96	20.74	-0.36	2.34
7	1.0	5.0	9.0	16.8	20.7	24.5	28.5	32.7	40.5	44.5	48.3	24.68	0.93	21.17	-0.33	2.25
10	1.4	5.0	9.3	17.0	21.1	25.0	28.8	32.8	40.8	44.8	48.7	24.97	0.77	21.63	-0.21	2.36
21	2.0	5.9	9.7	17.5	21.5	25.4	29.3	33.3	41.4	45.4	49.4	25.53	0.01	23.58	+0.25	2.19
χ DRACONIS.* $a_0 = 18^h 23^m 21^s.60$																
Sept. 2	4.3	11.0	18.0	31.9	39.0	45.7	52.7	59.7	13.3	20.3	28.0	45.81	-1.52	-19.67	-2.61	23 22.01
7	...	...	...	33.3	40.1	46.5	53.9	1.0	...	...	...	46.96	1.80	21.17	2.24	21.75
10	...	...	...	33.0	39.8	46.7	53.5	0.7	...	...	...	46.74	1.49	21.63	2.01	21.61
B. A. C. 6318. $a_0 = 18^h 25^m 56^s.44$																
Sept. 2	...	...	...	9.7	13.7	17.7	21.8	25.8	...	...	...	17.74	-0.81	-19.67	-0.62	25 56.64
3	53.7	57.7	1.7	10.0	14.0	18.0	22.0	26.0	34.3	38.1	42.1	17.96	0.97	19.92	0.58	56.49
6	54.4	58.3	2.5	10.4	14.5	18.5	22.5	26.7	34.7	38.8	42.8	18.55	0.98	20.74	0.46	56.37
7	54.6	58.7	2.9	11.0	14.9	19.0	22.9	27.0	35.1	39.1	43.2	18.94	0.95	21.17	0.42	56.40

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.							
			A.	C.															
η SAGITTARI.													$\delta_0 = -36^\circ 47' 50''.9$						
Aug. 31	m. 8	s. 48.7	' 1	' 14.4	' 22.0	' 6	' 18.20	' 6	' 45.96	' 43	' 57.61	' -4	' 44.99	' -1.96	' +47.52	' +5.65	' 47	' 51.4	
Sept. 1	8	55.6	1	16.3	23.9	6	20.10	6	40.68	43	52.33	4	50.90	2.04	49.97	5.70		49.6	
2	9	37.8	2	6.8	15.2	7	11.00	6	46.77	43	58.42	4	45.58	1.86	47.56	5.76		52.5	
6	8	53.0	1	21.8	28.6	6	25.20	6	50.07	44	1.72	4	41.30	1.98	47.63	5.96		51.4	
δ SAGITTARI.													$\delta_0 = -29^\circ 52' 47''.5$						
Sept. 2	12	44.3	10	3	4.0	13.2	13	8.60	13	33.32	50	44.97	-2	54.43	-1.65	+47.56	+3.65	52	49.8
3	12	47.2	10	3	4.0	12.8	13	8.40	13	29.87	50	41.52	2	55.30	1.67	48.15	3.69		46.6
6	12	46.7	10	3	9.8	16.1	13	12.95	13	35.93	50	47.58	2	51.77	1.65	47.63	3.81		49.6
7	.....											.....		.....		.....		.....	
η SERPENTIS.*													$\delta_0 = -2^\circ 55' 47''.9$						
Sept. 2	14	41.9	15	2	54.8	62.2	17	58.50	18	21.76	55	33.41	-0	57.07	-1.19	+47.56	-5.11	59	49.2
6	14	42.9	15	2	56.2	60.9	17	58.55	18	21.95	55	33.60	0	56.20	1.19	47.63	5.11		48.5
7	14	39.9	15	2	49.9	56.5	17	53.20	18	21.14	55	32.79	0	56.37	1.20	47.87	5.21		47.7
δ URSÆ MINORIS.*													$\delta_0 = +86^\circ 36' 23''.4$						
Aug. 31	.....											.....		.....		.....		.....	
Sept. 1	.....											.....		.....		.....		.....	
7	.....											.....		.....		.....		.....	
10	.....											.....		.....		.....		.....	
109 HERCULIS.*													$\delta_0 = +21^\circ 42' 47''.1$						
Sept. 2	18	12.3	35	4	48.7	51.9	39	50.30	40	16.55	42	31.80	-0	21.33	-0.14	+47.56	-11.38	42	46.5
3	18	12.6	35	4	48.2	52.0	39	50.10	40	16.35	42	32.00	0	21.44	0.14	48.15	11.48		47.1
6	17	18.7	35	4	55.9	57.3	39	56.60	40	16.13	42	32.22	0	21.00	0.10	47.63	11.68		47.1
7	19	1.8	40	0	48.0	49.1	40	48.55	40	14.96	42	33.39	0	21.09	0.85	47.87	11.78		47.5
10	18	50.9	40	0	32.5	35.6	40	34.05	40	14.65	42	33.70	0	21.57	0.78	48.10	11.88		47.6
δ DRACONIS.*													$\delta_0 = +58^\circ 43' 37''.6$						
Sept. 3	21	45.5	35	4	36.8	35.0	39	35.90	40	2.45	42	45.90	+0	16.67	+1.04	+48.15	-16.22	43	35.5
6	21	51.8	35	4	37.6	35.8	39	36.70	39	59.30	42	49.05	0	16.33	1.14	47.63	16.52		37.6
7	21	36.6	35	4	27.2	27.3	39	27.25	40	0.59	42	47.76	0	16.42	0.81	47.87	16.62		36.2
10	21	49.7	35	4	36.4	34.8	39	35.60	40	0.07	42	48.28	0	16.76	1.09	48.10	16.92		37.3
21	.....											.....		.....		.....		.....	
χ DRACONIS.*													$\delta_0 = +72^\circ 40' 36''.1$						
Sept. 2	22	36.6	40	2	54.6	48.3	42	51.45	43	19.02	39	29.33	+0	33.04	+0.90	+47.56	-16.40	40	34.4
7	23	47.6	40	3	20.8	15.8	43	18.30	43	18.06	39	30.29	0	32.70	1.71	47.87	16.99		35.6
10	23	19.8	40	3	10.6	5.0	43	7.80	43	18.52	39	29.83	0	33.39	1.56	48.10	17.30		35.6
B. A. C. 6318.													$\delta_0 = +59^\circ 27' 50''.5$						
Sept. 2	26	34.6	55	0	58.7	55.8	55	57.25	55	45.76	27	2.59	+0	17.38	+0.77	+47.56	-15.80	27	52.5
3	25	40.0	55	0	22.7	19.0	55	20.85	55	46.63	27	1.72	0	17.47	0.40	48.15	15.93		51.8
6	25	41.5	55	0	22.0	18.0	55	20.00	55	45.17	27	3.18	0	17.11	0.42	47.63	16.29		52.0
7	25	44.3	55	0	24.1	20.8	55	22.45	55	45.97	27	2.38	0	17.21	0.46	47.87	16.40		51.5

Date.	Right Ascension Wires.											Seconds of Transit over Mean Wire.	$n \tan \delta$ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
1871.	1	2	3	4	5	6	7	8	9	10	11						
Sept.	1 AQUILÆ. $a_0 = 18^h 28^m 14^s.46$																
	2	20.1	22.1	24.2	28.4	30.5	32.6	34.7	36.8	40.9	43.0	45.1	32.58	+0.05	-19.67	+1.54	28 14.50
	6	21.1	23.2	25.3	29.4	31.5	33.6	35.7	37.8	41.9	44.0	46.0	33.59	.07	20.74	1.59	14.51
	7	21.6	23.6	25.7	29.8	31.9	34.0	36.1	38.1	42.4	44.3	46.4	33.99	.07	21.17	1.61	14.50
	10	21.0	23.0	25.1	29.1	31.4	33.4	35.4	37.5	41.7	43.7	45.8	33.37	.05	21.63	1.66	14.45
Sept.	α LyrÆ.* $a_0 = 18^h 32^m 36^s.28$																
	2	40.0	42.7	45.1	50.6	53.2	55.7	58.3	1.0	6.3	9.0	11.6	55.77	-0.39	-19.68	+0.54	32 36.24
	3	40.1	42.8	45.6	50.6	53.2	56.0	58.6	1.1	6.5	9.1	11.8	55.94	.46	19.93	0.56	36.11
	6	41.0	43.6	46.3	51.5	54.2	56.8	59.4	1.8	7.3	10.0	12.5	56.76	.47	20.75	0.62	36.16
	7	41.4	44.1	46.7	52.0	54.7	57.1	59.8	2.4	7.7	10.4	12.9	57.20	.46	21.18	0.65	36.21
Sept.	2 AQUILÆ. $a_0 = 18^h 35^m 15^s.82$																
	6	22.5	24.5	26.7	30.8	32.9	35.0	37.1	39.2	43.1	45.4	47.5	34.97	+0.07	-20.75	+1.56	35 15.85
	7	23.0	25.0	27.1	31.3	33.4	35.5	37.6	39.7	43.8	45.8	47.9	35.46	+ .07	21.18	1.58	15.93
	24	25.4	27.5	29.5	33.8	35.7	37.8	39.8	42.0	46.1	48.2	50.4	37.84	-.02	23.73	1.83	15.92
Sept.	51 H. CEPHEI L. C.* $a_0 = 6^h 39^m 44^s.74$																
	2	4.8	46.3	30.3	54.5	38.1	19.6	2.2	44.8	10.6	53.3	36.0	20.04	+ 9.83	-19.68	+33.46	39 43.65
	3	4.7	46.0	27.8	52.6	36.2	19.0	1.1	43.8	8.9	53.8	34.4	18.94	11.84	19.93	33.02	43.87
	6	...	...	...	...	40.3	23.4	5.5	...	...	...	...	23.24	12.00	20.75	31.51	46.00
	7	...	...	32.6	56.0	40.6	21.4	...	...	...	...	...	21.95	11.65	21.18	30.96	43.38
Sept.	110 HERCULIS.* $a_0 = 18^h 40^m 9^s.27$																
	7	16.4	18.5	20.7	25.1	27.3	29.5	31.7	33.9	38.3	40.2	42.6	29.47	-0.22	-21.18	+1.07	40 9.14
	10	16.8	18.9	21.1	25.5	27.7	29.9	32.1	34.3	38.6	40.8	43.0	29.88	0.18	21.64	1.12	9.18
	18	17.9	20.1	22.3	26.6	28.8	31.1	33.2	35.5	39.8	42.1	44.2	31.06	.03	23.18	1.28	9.13
	21	18.3	20.5	22.6	26.9	29.2	31.3	33.7	35.9	40.0	42.4	44.8	31.42	.01	23.58	1.33	9.16
	24	...	...	...	27.0	29.2	31.5	33.7	35.9	...	...	...	31.46	.01	23.73	1.39	9.11
		B. A. C. 6419. $a_0 = 18^h 43^m 51^s.47$															
6	52.6	56.1	59.5	6.2	9.7	13.0	16.5	19.7	26.6	30.0	33.4	13.03	-0.77	-20.75	-0.11	43 51.40	
7	52.8	56.4	59.8	6.6	10.1	13.4	16.7	20.3	27.0	30.4	33.8	13.39	-.75	21.18	-0.07	51.39	
21	54.1	57.7	1.2	7.9	11.2	14.7	18.1	21.4	28.2	31.4	34.9	14.62	-.01	23.58	+0.39	51.42	
24	...	...	...	7.8	11.2	14.7	18.1	21.6	...	...	...	14.68	+ .01	23.73	+0.49	51.45	
Sept.	β LyrÆ.* $a_0 = 18^h 45^m 21^s.21$																
	6	...	...	...	36.8	39.2	41.6	44.0	46.6	...	...	...	41.64	-0.38	-20.75	+0.72	45 21.23
	7	27.2	29.6	32.2	37.1	39.6	42.1	44.5	47.0	51.8	54.2	56.7	42.00	.37	21.18	0.74	21.19
	10	27.6	30.0	32.6	37.4	39.9	42.4	44.8	47.4	52.2	54.7	57.1	42.37	.31	21.64	0.78	21.20
	24	29.1	31.5	34.0	38.9	41.4	43.9	46.3	48.7	53.7	56.1	58.6	43.84	.00	23.73	1.10	21.21
Sept.	σ SAGITTARI. $a_0 = 18^h 47^m 19^s.67$																
	2	23.7	26.0	28.2	32.7	35.0	37.4	39.7	42.0	46.5	48.9	51.1	37.38	+0.21	-19.68	+1.66	47 19.57
	7	24.9	27.4	29.8	34.2	36.6	38.8	41.2	43.4	48.0	50.2	52.5	38.82	+ .26	21.18	1.73	19.63
	10	25.6	27.8	30.1	34.8	37.0	39.3	41.6	43.8	48.5	50.8	53.0	39.30	+ .21	21.64	1.78	19.65
	18	27.1	29.5	31.8	36.4	38.7	41.0	43.2	45.5	50.2	52.5	54.8	40.97	+ .00	23.18	1.92	19.71
	24	27.6	29.9	32.2	36.8	39.1	41.4	43.6	46.0	50.6	52.8	55.2	41.38	-.03	23.73	2.03	19.65

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.	
			E.	G.*									
1 AQUILÆ. $\delta_0 = -8^\circ 19' 51''.8$													
Sept. 2	28 18.6	40	1	55.3	62.1	41 58.70	42 17.24	19 28.89	-1 9.02	-1.49	+47.56	-2.24	19 54.1
6	28 16.3	40	1	52.9	56.5	41 54.70	42 17.61	19 29.26	1 7.96	1.50	47.63	2.34	53.4
7	28 11.1	40	1	41.9	48.7	41 45.30	42 15.50	19 27.15	1 8.39	1.50	47.87	2.34	51.5
10	28 17.3	40	1	51.8	56.3	41 54.05	42 15.38	19 27.03	1 9.73	1.51	48.10	2.34	52.5
α LYRÆ.* $\delta_0 = +38^\circ 39' 56''.9$													
Sept. 2	32 31.1	40	2	55.0	55.9	42 55.45	43 21.27	39 27.08	-0 3.67	+0.15	+47.56	-13.37	39 57.7
3	32 32.2	40	2	56.8	56.7	42 56.75	43 21.52	39 26.83	0 3.69	0.18	48.15	13.47	58.0
6	32 24.6	40	2	48.3	47.8	42 48.05	43 21.71	39 26.64	0 3.62	0.04	47.63	13.77	56.9
7	32 31.3	40	2	55.1	55.3	42 55.20	43 22.27	39 26.08	0 3.64	0.14	47.87	13.87	56.6
2 AQUILÆ. $\delta_0 = -9^\circ 10' 21''.7$													
Sept. 6	35 18.8	30	2	21.9	26.1	32 24.00	32 45.41	9 57.06	-1 10.03	-1.44	+47.63	-1.98	10 22.9
7	35 14.9	30	2	12.3	19.9	32 16.10	32 43.32	9 54.97	1 10.55	1.43	47.87	1.98	21.1
24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
51 H. CEPHEI L. C.* $\delta_0 = +92^\circ 45' 45''.8$													
Sept. 2	37 0.6	35	4	3.7	54.9	38 59.30	38 50.27	43 58.08	+1 8.24	+2.87	+47.56	-12.50	45 44.2
3	37 6.0		4	4.0	55.0	38 59.50	38 50.92	43 57.43	1 8.54	2.82	48.15	12.60	44.3
6	37 31.4		3	59.8	51.2	38 55.50	38 48.28	44 0.07	1 7.19	2.67	47.63	13.10	44.5
7	36 58.2		4	4.3	55.2	38 59.75	38 50.46	43 57.89	1 7.76	2.90	47.87	13.30	43.1
110 HERCULIS.* $\delta_0 = +20^\circ 25' 31''.0$													
Sept. 7	40 9.3	55	2	3.1	7.5	57 5.30	57 30.64	25 17.71	-0 22.66	-0.61	+47.87	-10.07	25 32.2
10	40 15.2	55	2	12.4	14.7	57 13.55	57 31.99	25 16.36	0 23.05	0.57	48.10	10.27	30.6
18	40 13.8	55	2	57.9	67.8	58 2.85	58 24.43	24 23.92	0 23.68	1.33	102.77	10.57	31.1
21	40 16.3	55	2	20.3	15.5	57 17.90	57 36.84	25 11.51	0 23.75	1.22	55.25	10.67	31.1
24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
B. A. C. 6419. $\delta_0 = +52^\circ 50' 52''.7$													
Sept. 6	43 36.8	30	2	11.9	8.8	32 10.35	32 39.62	50 8.73	+0 10.30	+0.42	+47.63	-14.45	50 52.6
7	43 40.0	30	2	13.8	13.8	32 13.80	32 40.80	50 7.55	0 10.38	0.47	47.87	14.57	51.7
21	43 46.5	30	2	22.7	19.9	32 21.30	32 44.02	50 4.33	0 10.88	-0.10	55.25	15.88	54.5
24	43 45.9	30	3	2.4	26.6	32 44.50	33 7.78	49 40.57	0 10.27	0.16	78.86	16.12	53.4
β LYRÆ.* $\delta_0 = +33^\circ 12' 55''.5$													
Sept. 6	45 40.4	10	0	17.8	17.8	10 17.80	10 19.14	12 29.21	-0 8.99	-0.32	+47.63	-11.97	12 55.6
7	45 17.6	5	4	51.9	54.3	9 53.10	10 20.43	12 27.92	0 9.08	+0.26	47.87	12.07	54.9
10	45 21.9	5	4	56.4	57.3	9 56.85	10 19.81	12 28.54	0 9.23	0.31	48.10	12.37	55.3
24	45 26.4	10	0	46.8	14.0	10 30.40	10 49.89	11 58.46	0 8.97	-0.50	78.86	13.17	54.7
σ SAGITTARI. $\delta_0 = -26^\circ 27' 10''.0$													
Sept. 2	47 15.0	45	2	54.5	61.8	47 58.15	48 25.00	25 36.65	-2 24.95	-1.63	+47.56	+3.84	27 11.8
7	47 19.8	45	2	56.5	64.8	48 0.65	48 23.43	25 35.08	2 24.02	1.64	47.87	4.04	8.8
10	47 21.5	45	2	58.9	65.0	48 1.95	48 23.17	25 34.82	2 26.30	1.65	48.10	4.14	10.5
18	47 17.1	45	3	41.6	53.1	48 47.35	49 16.00	26 27.65	2 30.34	2.57	102.77	4.44	13.3
24	48 7.3	45	4	41.6	15.4	49 28.50	48 57.46	25 9.11	2 22.28	2.65	78.86	4.64	10.5
* Microscopes E and G were used after September 20, when the instrument was reversed.													

Date. 1871.	Right Ascension Wires.											Seconds of transit over Mean Wire.	$n \tan \delta$ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
δ^1 Lyræ. $\alpha_0 = 18^h 49^m 15^s.34$																
Sept. 6	20.7	23.2	25.6	30.8	33.3	35.8	38.4	41.1	46.2	48.7	51.3	35.92	-0.44	-20.75	+0.58	49 15.31
7	20.8	23.5	26.0	31.2	33.8	36.3	38.8	41.5	46.5	49.1	51.6	36.28	-0.43	21.18	0.61	15.28
10	21.1	23.8	26.4	31.6	34.1	36.6	39.1	41.7	47.0	49.5	52.0	36.63	-0.36	21.64	0.68	15.31
18	22.2	24.8	27.3	32.5	35.0	37.6	40.1	42.8	47.8	50.5	53.0	37.60	-0.05	23.18	0.86	15.23
24	...	...	...	32.8	35.4	38.0	40.5	43.1	...	...	...	37.96	+0.00	23.73	0.99	15.22
13 R. Lyræ.* $\alpha_0 = 18^h 51^m 26^s.39$																
Sept. 2	29.3	32.0	35.0	40.8	43.5	46.3	49.1	52.0	57.7	0.7	3.4	46.34	-0.46	-19.68	+0.23	51 26.43
6	30.1	33.0	35.9	41.6	44.5	47.3	50.2	53.1	58.8	1.6	4.5	47.33	-0.56	20.75	0.33	26.35
7	30.6	33.5	36.2	42.0	44.8	47.7	50.6	53.5	59.0	2.0	4.9	47.71	-0.55	21.18	0.36	26.34
18	31.9	34.8	37.5	43.2	46.1	48.9	51.8	54.6	0.3	3.0	5.9	48.91	-0.06	23.18	0.64	26.31
21	32.1	34.8	37.8	43.4	46.4	49.3	52.1	54.9	0.7	3.5	6.3	49.21	-0.01	23.58	0.73	26.35
24	32.3	35.0	37.9	43.7	46.5	49.3	52.0	55.0	0.6	3.5	6.5	49.30	+0.00	23.73	0.81	26.38
ϵ Aquilæ.* $\alpha_0 = 18^h 53^m 48^s.79$																
Sept. 2	54.8	57.0	59.1	3.3	5.4	7.7	9.8	11.9	16.0	18.2	20.3	7.59	-0.14	-19.68	+1.04	53 48.81
6	55.9	58.0	0.2	4.3	6.5	8.6	10.7	12.9	17.1	19.2	21.4	8.62	0.17	20.75	1.10	48.80
7	56.2	58.3	0.4	4.8	6.9	9.0	11.2	13.3	17.4	19.6	21.7	8.98	0.16	21.18	1.12	48.76
18	58.0	0.0	2.1	6.5	8.6	10.7	12.9	14.9	19.2	21.3	23.4	10.69	0.03	23.18	1.31	48.79
21	58.3	0.4	2.6	6.8	8.9	10.9	13.1	15.2	19.3	21.6	23.8	10.99	0.01	23.58	1.36	48.76
24	58.4	0.5	2.7	6.9	9.0	11.1	13.2	15.3	19.5	21.6	23.8	11.09	0.01	23.73	1.42	48.77
g Aquilæ. $\alpha_0 = 18^h 56^m 9^s.97$																
Sept. 23	19.7	21.7	23.8	27.9	29.9	31.9	34.0	36.0	40.2	42.2	44.3	31.96	-0.02	-23.57	+1.66	56 10.03
Oct. 4	...	...	...	10.5	12.5	14.6	16.6	18.6	...	...	...	14.56	0.02	6.33	1.84	10.05
5	2.4	4.3	6.4	10.5	12.5	14.6	16.7	18.7	22.8	24.9	27.0	14.62	0.02	6.43	1.86	10.03
8	...	4.7	6.7	10.9	12.9	15.0	17.0	19.1	23.2	25.3	...	14.99	0.02	6.87	1.91	10.01
ζ Aquilæ.* $\alpha_0 = 18^h 59^m 31^s.56$																
Sept. 21	41.2	43.1	45.4	49.6	51.8	53.9	55.9	58.1	2.3	4.4	6.6	53.84	-0.01	-23.58	+1.35	59 31.60
23	41.1	43.2	45.3	49.6	51.7	53.8	55.8	58.0	2.2	4.4	6.6	53.79	0.01	23.57	1.38	31.59
25	41.5	43.7	45.8	49.9	52.0	54.1	56.3	58.2	2.5	4.7	6.9	54.14	0.01	23.95	1.42	31.60
Oct. 4	23.7	26.0	28.0	32.0	34.2	36.3	38.5	40.7	44.8	47.0	49.1	36.39	0.00	6.33	1.58	31.64
5	23.8	25.9	28.0	32.3	34.4	36.4	38.6	40.8	44.9	47.1	49.1	36.48	0.00	6.43	1.61	31.66
8	24.0	26.2	28.3	32.6	34.7	36.8	39.0	41.1	45.3	47.4	49.6	36.82	0.00	6.87	1.66	31.61
π Sagittarii. $\alpha_0 = 19^h 2^m 9^s.01$																
Sept. 21	17.7	19.9	22.1	26.5	28.7	30.8	33.0	35.1	39.7	41.8	44.1	30.85	-0.02	-23.58	+1.81	2 9.06
23	17.6	19.8	22.0	26.5	28.7	30.8	33.0	35.1	39.7	41.9	44.0	30.83	0.03	23.57	1.84	9.07
24	17.7	20.0	22.1	26.5	28.7	30.9	33.1	35.4	39.8	42.0	44.2	30.95	0.03	23.73	1.86	9.05
Oct. 4	0.1	2.4	4.6	8.9	11.2	13.4	15.6	17.7	22.1	24.4	26.6	13.36	0.04	6.33	2.04	9.03
5	0.3	2.5	4.8	9.0	11.3	13.5	15.6	17.9	22.2	24.5	26.8	13.49	0.03	6.43	2.06	9.09
Pl. XIX. 4. $\alpha_0 = 19^h 4^m 48^s.96$																
Sept. 21	57.6	59.9	2.0	6.5	8.6	10.8	12.9	15.2	19.7	22.0	24.3	10.86	-0.02	-23.58	+1.81	4 49.07
23	57.7	59.8	2.0	6.5	8.7	10.9	13.1	15.3	19.7	22.0	24.2	10.90	0.03	23.57	1.84	49.14
24	57.8	0.0	2.2	6.7	8.9	11.2	13.2	15.4	19.9	22.1	24.3	11.06	0.03	23.73	1.86	49.16
Oct. 4	...	...	...	49.0	51.2	53.4	55.7	57.9	...	...	...	53.44	0.04	6.33	2.04	49.11
8	40.7	42.8	45.0	49.5	51.8	54.1	56.3	58.4	2.8	5.1	7.2	53.97	0.04	6.87	2.11	49.17

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
δ^1 Lyræ. $\delta_0 = + 36^\circ 48' 46''.7$												
Sept. 6	49 14.1	30 4	8.3	8.2	34 8.25	34 31.61	48 16.74	-0 5.43	+0.32	47.63	-12.27	48 47.0
7	49 15.5	30 4	8.2	11.1	34 9.65	34 31.94	48 16.41	0 5.48	0.34	47.87	12.36	46.8
10	49 17.7	30 4	10.2	13.0	34 11.60	34 31.85	48 16.50	0 5.57	0.37	48.10	12.47	46.9
18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
24	49 52.3	35 0	31.9	0.0	35 15.95	35 0.62	47 47.73	0 5.42	-0.30	78.86	15.59	45.3
13 R. Lyræ.* $\delta_0 = + 43^\circ 46' 42''.3$												
Sept. 2	51 21.2	35 1	18.2	16.2	36 17.20	36 41.46	46 6.89	+0 1.38	+0.08	47.56	-12.36	46 43.5
6	51 31.0	35 1	27.2	23.8	36 25.50	36 41.25	46 7.10	0 1.36	0.19	47.63	12.96	43.3
7	51 22.5	35 1	18.9	17.7	36 18.30	36 42.56	46 5.79	0 1.38	0.08	47.87	13.06	42.1
18	51 20.2	35 2	3.8	11.6	37 7.70	37 35.44	46 12.91	0 1.43	-0.46	102.77	14.16	42.5
21	51 23.1	35 1	24.2	20.3	36 22.25	36 47.48	46 0.87	0 1.44	0.31	55.25	14.36	42.9
24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
ϵ Aquilæ.* $\delta_0 = + 14^\circ 53' 45''.8$												
Sept. 2	53 48.4	25 3	46.0	50.0	28 48.00	29 12.84	53 35.51	-0 29.47	-0.54	47.56	-7.43	53 45.6
6	53 50.8	25 3	48.4	50.7	28 49.55	29 12.58	53 35.77	0 29.00	0.51	47.63	7.73	46.2
7	53 51.5	25 3	46.2	51.3	28 48.75	29 11.39	53 36.96	0 29.31	0.51	47.87	7.73	47.3
18	53 47.1	25 4	27.8	40.7	29 34.25	30 4.78	52 43.57	0 30.58	1.75	102.77	8.33	45.7
21	53 51.3	25 4	59.7	46.6	29 53.15	39 18.64	53 29.71	0 30.67	1.77	55.25	8.43	44.1
24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
g Aquilæ. $\delta_0 = - 3^\circ 52' 56''.1$												
Sept. 23	56 13.8	15 0	51.0	13.7	15 32.35	15 56.66	53 8.31	-0 59.10	-1.76	+78.21	-2.65	52 53.6
Oct. 4	56 26.2	15 0	55.0	62.0	15 58.50	15 43.01	52 54.66	0 59.39	1.87	61.76	2.50	56.7
5	55 58.0	15 0	17.4	24.3	15 20.85	15 43.02	52 54.67	0 58.91	1.74	62.62	2.48	55.2
8	55 39.5	15 1	13.2	17.2	16 15.20	15 42.34	52 53.99	0 11.05	1.90	62.21	2.41	57.1
ζ Aquilæ.* $\delta_0 = + 13^\circ 40' 29''.4$												
Sept. 21	59 36.1	40 2	12.9	4.9	42 8.90	42 31.92	40 16.43	-0 32.29	-1.41	+55.25	-7.76	40 30.2
23	59 35.1	40 2	49.1	20.3	42 34.70	42 59.03	39 49.32	0 31.01	1.51	78.21	7.76	27.2
25	59 37.9	40 2	52.0	22.1	42 37.05	42 58.12	39 50.23	0 31.21	1.50	79.16	7.86	28.8
Oct. 4	59 27.4	40 2	25.9	33.5	42 29.70	42 41.40	40 6.95	0 31.17	1.57	61.76	7.86	28.1
5	59 56.5	40 3	5.6	10.3	43 7.95	42 41.80	40 6.55	0 30.92	1.71	62.62	7.86	28.7
8	59 17.6	40 2	14.1	19.0	42 16.55	42 41.53	40 6.82	0 32.04	1.55	62.21	7.86	27.6
π Sagittarii. $\delta_0 = - 21^\circ 13' 28''.2$												
Sept. 21	2 13.7	35 0	0.7	48.2	34 54.45	35 15.79	12 27.44	-1 58.16	-2.70	+55.25	+3.49	13 29.6
23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oct. 4	1 53.9	35 0	59.6	68.7	36 4.15	36 28.48	13 40.13	1 54.07	2.24	61.76	3.85	30.8
5	1 53.2	35 0	59.8	68.6	36 4.20	36 29.53	13 41.18	1 53.15	2.23	62.62	3.88	30.1
Pr. XIX. 4. $\delta_0 = - 21^\circ 52' 4''.7$												
Sept. 21	4 55.3	10 3	35.6	22.6	13 29.10	13 48.48	51 0.13	-2 01.57	-2.54	+55.25	+3.82	52 5.2
23	4 52.8	10 4	9.1	46.1	13 57.60	14 20.21	51 31.86	1 56.71	2.58	78.21	3.85	9.1
24	4 50.5	10 4	7.2	43.2	13 55.20	14 20.79	51 32.44	1 54.59	2.57	78.86	3.88	6.9
Oct. 4	4 33.9	10 3	33.5	42.6	13 38.05	14 2.27	51 13.92	1 57.33	2.69	61.76	4.18	8.0
8	4 38.1	10 3	35.3	42.6	13 38.95	13 58.70	51 10.35	2 0.62	2.71	62.21	4.30	7.2

Date. 1871.	Right Ascension Wires.											Seconds of transit over Mean Wire.	$n \tan \delta$ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
ψ SAGITTARII. $\alpha_0 = 19^h 7^m 41^s.39$																
Sept. 21	49.5	51.8	54.1	58.5	0.9	3.1	5.5	7.8	12.3	14.7	17.0	03.20	-0.02	-23.58	+1.83	m. 7 41.43
23	49.6	51.8	54.1	58.7	0.9	3.3	5.5	7.7	12.3	14.7	16.9	3.23	0.04	23.57	1.87	41.49
24	49.7	52.0	54.2	58.8	1.1	3.4	5.7	7.9	12.5	14.7	17.0	3.36	0.03	23.73	1.88	41.48
Oct. 4	32.1	34.4	36.7	41.2	43.5	45.8	48.0	50.3	54.9	57.0	59.4	45.75	0.04	6.33	2.07	41.45
5	32.3	34.4	36.7	41.3	43.6	45.9	48.2	50.3	55.0	57.3	59.6	45.87	0.04	6.43	2.08	41.48
8	32.7	34.9	37.2	41.7	44.0	46.3	48.5	50.8	55.5	57.7	0.0	46.30	0.05	6.87	2.14	41.52
d SAGITTARII. $\alpha_0 = 19^h 10^m 8^s.67$																
Sept. 21	17.5	19.6	21.9	26.3	28.4	30.7	32.7	34.9	39.2	41.4	43.6	30.56	-0.02	-23.58	+1.73	10 8.69
24	17.7	19.9	22.1	26.4	28.5	30.7	32.8	35.0	39.4	41.5	43.8	30.71	0.03	23.73	1.78	8.73
Oct. 4	0.1	2.3	4.4	8.8	11.0	13.1	15.3	17.5	21.8	24.1	26.3	13.15	0.04	6.33	1.96	8.74
22	1.2	3.4	5.6	10.0	12.2	14.3	16.6	18.7	23.0	25.1	27.4	14.32	0.07	7.79	2.26	8.72
ω AQUILÆ.* $\alpha_0 = 19^h 11^m 48^s.48$																
Sept. 21	58.2	0.2	2.3	6.5	8.6	10.8	12.8	15.0	19.1	21.2	23.2	10.72	-0.01	-23.58	+1.32	11 48.45
23	58.2	0.2	2.3	6.5	8.6	10.7	12.9	15.0	19.0	21.2	23.4	10.73	0.01	23.57	1.35	48.50
Oct. 5	40.8	42.9	45.0	49.3	51.3	53.4	55.5	57.6	1.8	3.8	6.0	53.40	0.01	6.43	1.56	48.52
δ DRACONIS.* $\alpha_0 = 19^h 12^m 31^s.15$																
Sept. 24	...	...	...	45.0	50.2	55.7	1.0	6.3	...	...	...	55.64	+0.03	-23.73	-0.84	12 31.10
25	23.9	29.1	34.3	45.0	50.6	55.6	1.0	6.4	17.3	22.6	28.0	55.80	0.07	23.95	-0.78	31.14
Oct. 4	...	...	...	26.7	32.3	37.6	42.9	48.2	...	...	...	37.54	0.10	6.33	-0.25	31.06
8	5.9	11.3	16.3	26.9	32.4	37.8	43.2	48.8	59.2	4.8	10.2	37.89	0.12	6.87	-0.02	31.12
Nov. 2	...	...	17.4	28.0	33.5	38.9	44.0	49.4	0.3	5.6	10.9	38.79	0.42	9.51	+0.48	31.18
κ CYGNI.* $\alpha_0 = 19^h 14^m 8^s.55$																
Sept. 23	11.1	14.7	18.1	25.0	28.5	32.0	35.3	38.8	45.5	49.0	52.4	31.86	+0.03	-23.57	+0.23	14 8.55
25	...	...	...	...	...	32.4	35.7	39.0	46.0	49.2	52.7	32.18	0.03	23.95	0.27	8.53
Oct. 5	53.8	57.2	0.5	7.3	10.8	14.4	17.6	21.2	28.0	31.4	34.9	14.28	0.04	6.43	0.64	8.53
8	...	...	...	...	...	14.6	18.0	21.5	28.4	31.8	35.2	14.61	0.06	6.87	0.75	8.55
16	55.2	58.6	1.9	8.6	12.2	15.7	19.2	22.4	29.4	32.8	36.1	15.64	0.08	8.21	1.02	8.53
23	54.7	58.0	1.4	8.3	11.6	15.0	18.4	22.0	28.7	32.2	35.7	15.09	0.11	7.93	1.23	8.50
Nov. 2	...	...	...	9.3	12.8	16.3	19.7	23.2	...	...	...	16.26	0.23	9.51	1.52	8.50
χ SAGITTARII pr. $\alpha_0 = 19^h 17^m 29^s.02$																
Oct. 4	20.1	22.2	24.4	28.9	31.2	33.4	35.8	38.1	42.5	44.6	46.7	33.45	-0.04	-6.33	+1.99	17 29.07
5	...	...	...	29.1	31.3	33.6	35.9	38.1	...	...	...	33.60	0.04	6.43	2.01	29.14
8	20.3	22.5	24.9	29.4	31.5	34.0	36.2	38.5	43.1	45.3	47.5	33.93	0.05	6.87	2.06	29.07
22	21.1	23.3	25.6	30.2	32.4	34.6	36.9	39.1	43.7	46.0	48.2	34.65	0.08	7.79	2.31	29.09
δ AQUILÆ.* $\alpha_0 = 19^h 19^m 2^s.64$																
Sept. 23	12.5	14.5	16.5	20.7	22.8	24.8	26.8	29.0	33.1	35.2	37.2	24.83	-0.01	-23.57	+1.46	19 2.71
24	12.7	14.7	16.8	20.8	22.9	24.9	27.0	29.0	33.1	35.2	37.4	24.95	0.01	23.73	1.47	2.68
25	12.9	14.9	16.9	21.0	23.1	25.2	27.3	29.4	33.4	35.7	37.4	25.20	0.01	23.95	1.49	2.73
Oct. 5	55.2	57.1	59.3	3.4	5.5	7.5	9.5	11.6	15.7	17.7	19.8	7.48	0.01	6.43	1.65	2.69
22	56.2	58.3	0.3	4.4	6.5	8.5	10.6	12.7	16.8	18.8	20.9	8.55	0.01	7.79	1.93	2.68
23	56.3	58.3	0.4	4.6	6.6	8.7	10.7	12.8	16.9	18.9	21.0	8.65	0.01	7.93	1.95	2.66
Nov. 2	57.8	59.7	1.7	6.0	8.0	10.0	12.0	14.1	18.3	20.4	22.5	10.04	0.01	9.51	2.11	2.63

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.							
			E.	G.															
ψ SAGITTARII. $\delta_0 = -25^\circ 28' 28''.9$																			
Sept. 21	m. 7	s. 41.6	45	4	30.3	18.2	49	24.25	49	50.35	27	2.00	-2	23.76	-2.71	+55.25	+5.19	28	28.0
23	7	44.7	50	0	16.4	51.0	50	3.70	50	24.60	27	36.25	2	15.54	2.74	78.86	5.27	30.4	
Oct. 4	7	28.3	45	4	39.8	49.1	49	44.45	50	5.48	27	17.13	2	18.77	2.95	61.76	5.61	31.5	
5	7	28.0	45	4	38.5	48.2	49	43.35	50	4.98	27	16.63	2	17.65	2.93	62.62	5.64	28.9	
8	8	9.0	50	0	25.3	33.2	50	29.25	50	1.82	27	13.47	2	22.64	2.18	62.21	5.73	30.3	
d SAGITTARII. $\delta_0 = -19^\circ 10' 41''.4$																			
Sept. 21	10	11.6	30	2	19.0	7.2	32	13.10	32	37.13	9	48.78	-1	48.45	-2.31	+55.25	+2.98	10	41.3
24	10	12.4	30	2	59.0	32.9	32	45.95	33	9.09	10	20.74	1	42.19	2.37	78.86	3.08	43.4	
Oct. 4	9	49.6	30	2	16.8	25.9	32	21.35	32	50.93	10	2.58	1	44.65	2.38	61.76	3.38	44.5	
22	.....																	.....	
ω AQUILÆ.* $\delta_0 = +11^\circ 21' 58''.2$																			
Sept. 21	11	55.8	0	0	46.2	38.1	0	42.15	1	1.71	21	46.64	-0	35.47	-1.33	+55.25	-6.41	21	58.7
23	11	54.4	0	1	20.3	48.9	1	4.60	1	26.00	21	22.35	0	34.04	1.38	78.21	6.41	58.7	
Oct. 5	12	14.6	0	1	36.0	41.9	1	38.95	1	11.12	21	37.23	0	33.95	1.53	62.62	6.51	57.9	
δ DRACONIS.* $\delta_0 = +67^\circ 26' 10''.2$																			
Sept. 24	13	15.9	55	3	35.6	0.4	58	17.70	58	7.67	24	40.68	+0	26.01	+0.49	+78.86	-14.60	26	11.4
25	12	3.3	55	3	0.8	22.5	57	41.65	58	8.62	24	39.73	0	26.66	0.10	79.16	14.70	11.0	
Oct. 4	11	52.7	55	2	29.7	26.6	57	28.15	57	51.17	24	57.18	0	26.63	0.18	61.76	15.30	10.4	
8	11	58.4	55	2	34.7	29.0	57	31.85	57	52.14	24	56.21	0	27.39	0.27	62.21	15.50	10.6	
Nov. 2	13	20.1	55	3	18.3	9.6	58	13.95	57	52.74	24	55.61	0	27.45	0.13	62.34	15.60	9.9	
κ CYGNI.* $\delta_0 = +53^\circ 07' 58''.4$																			
Sept. 23	14	44.9	15	1	32.7	57.0	16	14.85	16	4.34	6	44.01	+0	10.76	+0.21	+78.21	-13.93	7	59.3
25	15	6.7	15	1	49.8	13.7	16	31.75	16	3.96	6	44.39	0	10.84	-0.10	79.16	14.03	60.3	
Oct. 5	14	24.2	15	0	55.2	54.0	15	54.60	15	46.65	7	1.70	0	10.73	+0.24	62.62	14.63	60.7	
8	14	50.2	15	1	16.0	13.1	16	14.55	15	45.96	7	2.39	0	11.13	-0.13	62.21	14.73	60.9	
16	14	33.3	15	1	2.8	3.1	16	2.95	15	48.73	6	59.62	0	11.06	+0.16	63.63	14.63	59.8	
23	13	28.8	15	0	9.8	8.9	15	9.35	15	46.54	7	1.81	0	10.64	-0.67	63.49	14.43	60.8	
Nov. 2	14	26.5	15	0	60.2	52.4	15	56.30	15	48.11	7	0.24	0	11.16	-0.27	62.34	13.73	59.7	
χ SAGITTARII pr. $\delta_0 = -24^\circ 45' 16''.6$																			
Oct. 4	17	13.4	5	1	29.5	39.5	6	34.50	6	59.30	44	10.95	-2	14.02	-2.34	+61.76	+5.79	45	19.8
5	.....																	.....	
8	18	3.6	5	2	25.7	35.2	7	30.45	6	54.35	44	6.00	2	17.78	2.43	62.21	5.94	18.1	
22	17	14.2	5	1	30.2	40.7	6	35.45	7	0.25	44	11.90	2	13.73	2.35	63.08	6.29	18.6	
δ AQUILÆ.* $\delta_0 = +2^\circ 51' 41''.2$																			
Sept. 23	19	2.5	30	1	18.4	47.8	31	3.10	31	32.92	51	15.43	-0	46.68	-1.65	+78.21	-3.63	51	41.7
24	19	7.1	30	1	25.0	55.0	31	10.00	31	33.80	51	14.55	0	45.84	1.67	78.86	3.63	42.3	
25	19	11.3	30	1	28.3	58.0	31	13.15	31	31.74	51	16.61	0	47.01	1.67	79.16	3.63	43.5	
Oct. 5	19	23.3	30	1	35.0	41.9	31	38.45	31	17.32	51	31.03	0	46.56	1.79	62.62	3.53	41.8	
22	19	1.0	30	1	2.4	8.0	31	5.20	31	15.10	51	33.25	0	46.84	1.70	63.08	3.03	44.8	
23	18	52.9	30	0	55.4	61.2	30	58.30	31	19.29	51	29.06	0	46.12	1.66	63.49	3.03	41.7	
Nov. 2	18	51.4	30	0	51.7	49.9	30	50.80	31	15.66	51	32.69	0	48.41	1.66	62.34	2.63	42.3	

Date. 1871.	Right Ascension Wires.											Seconds of transit over Mean Wire.	$n \tan \delta$ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
4 CYGNI. $a_0 = 19^h 21^m 32^s.49$																
Sept. 23	39.9	42.5	45.0	50.2	52.7	55.2	57.7	0.3	5.5	8.0	10.5	55.23	+0.01	-23.57	+0.83	m. 21 s. 32.50
24	40.3	42.7	45.2	50.3	52.9	55.4	58.0	0.6	5.6	8.1	10.8	55.44	0.00	23.73	0.85	32.56
25	40.3	42.9	45.4	50.5	53.0	55.5	58.0	0.5	5.7	8.3	10.7	55.53	0.01	23.95	0.87	32.46
Oct. 5	22.7	25.2	27.7	32.8	35.3	37.8	40.3	43.0	48.0	50.5	53.1	37.85	0.02	6.43	1.12	32.56
8	23.0	25.4	...	33.0	35.4	38.3	...	...	...	...	...	38.15	0.03	6.87	1.19	32.50
16	...	...	...	34.2	36.8	39.4	41.9	44.5	...	...	...	39.36	0.04	8.21	1.38	32.57
22	23.4	25.9	28.5	33.6	36.3	38.7	41.2	43.8	48.9	51.5	54.0	38.71	0.09	7.79	1.52	32.53
Nov. 2	25.0	27.5	30.0	35.1	37.6	40.2	42.7	45.2	50.3	52.8	55.4	40.16	0.12	9.51	1.77	32.54
β CYGNI pr.* $a_0 = 19^h 25^m 33^s.58$																
Sept. 23	42.3	44.5	46.8	51.5	53.9	56.1	58.5	0.8	5.4	7.7	10.1	56.14	+0.00	-23.57	+1.01	25 33.58
24	42.5	44.7	47.0	51.7	54.0	56.3	58.7	1.0	5.5	7.8	10.3	56.32	0.00	23.73	1.03	33.62
25	42.6	44.8	47.1	51.7	54.0	56.4	58.8	1.1	5.7	8.0	10.4	56.42	0.01	23.95	1.05	33.53
28	...	...	...	33.7	35.9	38.4	40.8	43.1	...	...	...	38.38	0.03	6.07	1.11	33.45
Oct. 4	24.7	27.0	29.3	34.0	36.3	38.7	40.9	43.3	48.0	50.3	52.6	38.64	0.01	6.33	1.23	33.55
5	24.8	27.1	29.3	34.0	36.4	38.7	41.0	43.3	48.0	50.4	52.6	38.69	0.01	6.43	1.25	33.52
8	...	...	...	34.4	36.7	39.1	41.5	43.7	...	...	...	39.08	0.02	6.87	1.31	33.54
16	26.5	28.8	30.9	35.6	38.0	40.3	42.6	44.9	49.4	51.7	54.2	40.26	0.02	8.21	1.48	33.55
22	25.8	28.1	30.4	34.9	37.3	39.6	42.0	44.3	49.0	51.3	53.7	39.67	0.06	7.79	1.61	33.55
Nov. 2	27.3	29.6	31.9	36.5	38.8	41.1	43.5	45.8	50.4	52.8	55.0	41.16	0.08	9.51	1.83	33.56
h^2 SAGITTARI. $a_0 = 19^h 28^m 54^s.97$																
Sept. 23	3.3	5.5	7.8	12.2	14.6	16.9	19.2	21.4	25.9	28.3	30.6	16.88	-0.04	-23.57	+1.72	28 54.99
28	45.7	47.8	50.2	54.9	57.1	59.3	1.5	3.7	8.4	10.6	12.9	59.28	0.06	6.07	1.81	54.96
Oct. 4	46.0	48.0	50.3	54.9	57.2	59.4	1.6	4.0	8.5	10.8	13.0	59.43	0.04	6.33	1.91	54.97
22	47.2	49.3	51.6	56.0	58.4	0.6	3.0	5.1	9.7	12.0	14.3	0.65	0.06	7.79	2.12	54.92
κ AQUILÆ. $a_0 = 19^h 30^m 0^s.23$																
Sept. 24	10.1	12.2	14.3	18.4	20.5	22.6	24.7	26.8	30.9	33.0	34.9	22.58	-0.02	-23.73	+1.53	30 00.36
25	10.3	12.2	14.4	18.5	20.7	22.8	24.8	26.9	31.0	33.0	35.2	22.71	0.02	23.95	1.55	00.29
Oct. 5	52.8	54.8	56.8	0.9	3.0	5.1	7.1	9.2	13.3	15.4	17.5	5.08	0.02	6.43	1.71	00.34
22	53.7	55.8	57.7	2.0	4.1	6.1	8.2	10.3	14.4	16.4	18.5	6.11	0.03	7.79	1.99	00.28
ϵ SAGITTÆ. $a_0 = 19^h 31^m 29^s.68$																
Sept. 23	39.3	41.4	43.6	47.9	50.0	52.1	54.3	56.4	0.8	2.9	5.0	52.15	-0.01	-23.57	+1.19	31 29.76
24	39.5	41.6	43.8	48.0	50.2	52.3	54.4	56.6	0.8	3.0	5.1	52.30	-0.01	23.74	1.20	29.75
Oct. 4	21.8	24.0	26.1	30.4	32.7	34.7	36.8	39.0	43.3	45.4	47.6	34.71	+0.00	6.34	1.38	29.75
5	21.9	24.0	26.2	30.6	32.7	34.8	36.9	39.0	43.3	45.6	47.6	34.78	+0.00	6.44	1.40	29.74
16	...	...	...	32.0	34.3	36.3	38.4	40.6	...	...	...	36.32	+0.01	8.21	1.60	29.72
22	23.0	25.1	27.3	31.5	33.6	35.8	37.9	40.1	44.3	46.5	48.6	35.79	+0.03	7.79	1.71	29.74
23	23.2	25.3	27.4	31.7	33.8	36.0	38.0	40.3	44.5	46.7	48.8	35.97	+0.01	7.94	1.73	29.77
B. A. C. 6737. $a_0 = 19^h 33^m 24^s.40$																
Sept. 23	21.3	25.8	30.3	39.5	44.0	48.6	53.1	57.6	6.8	11.4	16.0	48.58	+0.04	-23.57	-0.60	33 24.45
24	21.4	26.0	30.4	39.7	44.1	48.8	53.3	57.7	6.9	11.8	16.1	48.75	0.02	23.74	-0.56	24.47
25	21.4	25.8	30.5	39.9	44.4	49.0	53.2	57.9	7.1	11.8	16.4	48.85	0.05	23.96	-0.51	24.43
Oct. 8	...	...	...	21.9	26.5	31.2	35.5	40.4	...	...	...	31.10	0.09	6.87	+0.13	24.43
16	4.8	9.3	14.1	23.0	27.6	32.1	36.8	41.1	50.5	55.1	59.6	32.18	0.12	8.21	+0.52	24.61
23	4.0	8.5	13.1	22.3	26.7	31.4	35.7	40.4	49.7	54.3	58.9	31.36	0.16	7.94	+0.89	24.47

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
4 CYGNI. $\delta_0 = + 36^\circ 3' 44''.0$												
Sept. 23	m. 21 36.7	s. 20 0	60.8	27.2	19 44.00	20 4.02	2 44.33	-0 6.27	-1.01	+78.21	-11.44	3 43.8
24	21 30.3	15 4	54.2	21.5	19 37.85	20 5.02	2 43.33	0 6.15	0.94	78.86	11.51	43.6
25	21 44.5	20 0	68.3	35.0	19 51.65	20 3.56	2 44.79	0 6.32	0.91	79.16	11.57	45.1
Oct. 5	21 13.8	15 4	21.3	23.7	19 22.50	19 48.48	2 59.87	0 6.25	1.13	62.62	12.00	43.1
8	21 11.2	15 4	17.7	18.2	19 17.95	19 47.08	3 1.27	0 6.47	1.16	62.21	12.06	43.8
16	21 50.5	15 4	59.0	62.3	20 0.65	19 48.64	2 59.71	0 6.44	0.28	63.63	11.98	44.6
22	21 16.3	15 4	22.7	26.2	19 24.45	19 48.70	2 59.65	0 6.31	1.12	63.08	11.73	43.6
Nov. 2	21 13.5	15 4	20.7	18.7	19 19.70	19 48.60	2 59.75	0 6.50	1.16	62.34	10.84	43.6
β CYGNI pr.* $\delta_0 = + 27^\circ 41' 32''.5$												
Sept. 23	25 35.4	40 2	62.1	27.8	41 44.95	42 9.49	40 38.86	-0 14.85	-0.91	+78.21	-9.58	41 31.7
24	25 34.8	40 2	1.1	28.4	41 44.75	42 10.24	40 38.11	0 14.58	0.92	78.86	9.58	31.9
25	25 33.2	40 1	59.0	25.0	41 42.00	42 9.50	40 38.85	0 14.96	0.94	79.16	9.68	32.4
28	25 37.1	40 2	25.8	49.6	42 7.70	42 9.24	40 39.11	0 15.05	0.87	79.32	9.78	32.7
Oct. 4	25 47.4	40 2	3.2	4.8	42 4.00	41 53.58	40 54.77	0 14.93	0.98	61.76	9.98	30.6
5	25 20.0	40 1	29.7	31.1	41 30.40	41 52.57	40 55.78	0 14.81	0.94	62.62	10.08	32.6
8	25 54.6	40 2	10.0	9.3	42 9.65	41 51.27	40 57.08	0 15.35	1.03	62.21	10.08	32.8
16	25 14.5	40 1	20.5	22.1	41 21.30	41 51.89	40 56.46	0 15.26	0.98	63.63	9.98	33.9
22	25 18.7	40 1	27.1	28.8	41 27.95	41 52.84	40 55.51	0 14.90	0.94	63.08	9.78	33.0
Nov. 2	25 23.3	40 1	33.7	30.3	41 32.00	41 53.10	40 55.25	0 15.40	0.94	62.34	9.28	32.0
h^2 SAGITTARII. $\delta_0 = - 25^\circ 9' 49''.7$												
Sept. 23	29 3.8	30 1	42.3	16.5	31 29.40	31 45.27	8 56.92	-2 15.94	-2.35	+78.21	+5.93	9 51.1
28	28 43.6	30 1	39.5	8.5	31 24.00	31 43.02	8 54.67	2 17.82	2.34	79.32	6.16	49.4
Oct. 4	28 39.1	30 0	59.7	69.0	31 4.35	31 28.94	8 40.59	2 16.77	2.29	61.76	6.42	51.5
23	28 41.7	30 1	3.8	12.8	31 8.30	31 31.22	8 42.87	2 14.39	2.30	63.08	7.00	49.5
κ AQUILÆ. $\delta_0 = - 7^\circ 18' 34''.3$												
Sept. 24	30 7.9	40 1	31.6	5.0	41 18.30	41 37.82	18 49.47	-1 5.45	-1.95	+78.86	+0.09	18 37.9
25	30 7.4	40 1	26.9	59.3	41 13.10	41 33.42	18 45.07	1 7.16	1.94	79.16	0.09	34.9
Oct. 5	29 46.7	40 0	51.1	58.7	40 54.90	41 19.33	18 30.98	1 6.50	1.93	62.62	0.29	36.5
22	29 46.6	40 0	51.6	59.9	40 55.75	41 21.64	18 33.29	1 6.88	1.92	63.08	0.79	38.2
ϵ SAGITTÆ. $\delta_0 = + 16^\circ 10' 37''.0$												
Sept. 23	31 33.1	10 2	50.2	22.0	12 36.10	13 0.53	.....	.....	.....	.....	.....	.....
24	31 36.4	10 2	52.1	24.0	12 38.55	12 58.99	9 49.36	-0 27.37	-1.41	+78.86	-6.74	10 32.7
Oct. 4	31 29.5	10 2	29.9	37.0	12 33.45	12 40.13	10 8.22	0 28.03	1.47	61.76	6.98	33.5
5	31 26.5	10 2	28.2	34.9	12 31.55	12 42.22	10 6.13	0 27.81	1.47	62.62	6.99	32.5
16	31 41.4	10 2	44.1	50.6	12 47.35	12 40.79	10 7.56	0 28.66	1.49	63.63	6.87	34.2
22	31 38.8	10 2	41.1	46.9	12 44.00	12 40.14	10 8.21	0 27.97	1.51	63.08	6.69	35.1
23	31 42.3	10 2	45.8	52.3	12 49.05	12 40.95	10 7.40	0 27.53	1.52	63.49	6.66	35.2
B. A. C. 6737. $\delta_0 = + 63^\circ 8' 58''.9$												
Sept. 23	33 35.7	15 0	27.9	51.4	15 9.65	15 17.47	7 30.88	+0 21.47	+0.77	+78.21	-13.00	9 58.3
24	33 36.8	15 0	28.2	51.0	15 9.60	15 16.80	7 31.55	0 21.09	0.77	78.86	13.13	59.1
25	33 3.9	15 0	8.7	29.9	14 49.30	15 16.47	7 31.88	0 21.64	-0.25	79.16	13.25	59.2
Oct. 8	34 3.9	15 0	20.6	16.1	15 18.35	14 59.09	7 49.26	0 22.21	+0.53	62.21	14.36	59.9
16	33 18.1	10 4	52.7	50.3	14 51.50	15 0.04	7 48.31	0 22.09	0.31	63.63	14.59	59.8
23	33 19.6	10 4	53.1	53.0	14 53.05	15 0.19	7 48.16	0 21.23	0.30	63.49	14.55	58.6

Date. 1871.	Right Ascension Wires.											Seconds of Transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
β SAGITTÆ. $a_0 = 19^h 35^m 18^s.05$																
Sept. 25	27.8	30.0	32.1	36.4	38.5	40.8	42.9	45.0	49.3	51.5	53.6	40.72	+0.00	-23.96	+1.19	35 17.95
Oct. 4	10.1	12.3	14.5	18.3	20.9	23.0	25.2	27.3	31.7	33.8	36.0	23.01	0.00	6.34	1.35	18.02
8	11.6	13.7	15.8	20.1	22.3	24.5	26.6	28.8	33.0	35.2	37.4	24.45	0.00	6.87	1.42	18.00
16	11.7	13.8	16.0	20.3	22.4	24.6	26.7	28.8	33.2	35.4	37.4	24.57	0.01	8.21	1.57	17.94
22	11.3	13.3	15.5	19.8	21.9	24.1	26.3	28.4	32.7	34.8	37.0	24.10	0.03	7.79	1.68	18.02
Nov. 2	12.6	15.0	17.0	21.4	23.4	25.7	27.8	29.9	34.3	36.4	38.6	25.65	0.04	9.51	1.87	18.05
Pr. XIX. 243. $a_0 = 19^h 37^m 50^s.96$																
Sept. 24	58.7	1.0	3.5	8.3	10.8	13.0	15.6	17.8	22.9	25.3	27.7	13.14	-0.04	-23.74	+1.76	37 51.12
28	...	...	...	...	...	55.3	57.7	0.1	5.1	7.6	9.9	55.33	0.08	6.07	1.84	51.02
Oct. 4	41.0	43.4	45.8	50.7	53.0	55.6	58.0	0.3	5.2	7.7	10.1	55.53	0.06	6.34	1.95	51.08
16	...	...	...	52.2	54.8	57.2	59.4	2.0	...	...	...	57.12	0.07	8.21	2.18	51.02
22	42.1	44.5	47.0	51.9	54.3	56.7	59.0	1.5	6.3	8.7	11.3	56.66	0.11	7.79	2.30	51.06
γ AQUILÆ.* $a_0 = 19^h 40^m 10^s.45$																
Sept. 24	20.4	22.5	24.6	28.8	30.8	32.9	35.0	37.0	41.3	43.3	45.5	32.92	-0.01	-23.74	+1.26	40 10.43
25	20.7	22.7	24.8	29.0	31.0	33.0	35.2	37.2	41.6	43.6	45.7	33.14	-0.01	23.96	1.27	10.44
28	2.7	4.8	6.8	11.0	13.0	15.1	17.2	19.3	23.5	25.6	27.7	15.15	+0.00	6.07	1.32	10.40
Oct. 8	3.3	5.4	7.3	11.7	13.8	15.8	17.9	20.0	24.3	26.3	28.4	15.84	-0.01	6.87	1.48	10.44
16	4.5	6.5	8.7	12.9	15.0	17.1	19.2	21.2	25.3	27.5	29.6	17.04	-0.00	8.21	1.65	10.48
22	4.0	6.1	8.2	12.3	14.4	16.6	18.6	20.7	24.9	26.9	29.1	16.53	+0.01	7.79	1.73	10.48
δ SAGITTÆ.* $a_0 = 19^h 41^m 40^s.90$																
Sept. 24	50.5	52.6	54.8	59.1	1.2	3.4	5.5	7.8	12.1	14.3	16.4	3.43	+0.01	-23.74	+1.14	41 40.82
25	...	...	...	59.2	1.4	3.6	5.8	7.9	...	...	...	3.58	0.00	23.96	1.16	40.78
28	32.7	34.8	37.0	41.3	43.4	45.6	47.8	50.0	54.3	56.5	58.7	45.64	0.02	6.07	1.21	40.80
Oct. 8	...	...	...	42.0	44.1	46.3	48.5	50.7	...	...	...	46.32	0.00	6.87	1.38	40.83
16	...	...	...	...	...	47.5	49.7	51.8	56.2	58.3	0.5	47.48	0.01	8.21	1.52	40.80
23	34.1	36.2	38.4	42.7	44.9	47.0	49.2	51.4	55.6	57.9	0.0	47.04	0.02	7.94	1.65	40.77
Nov. 2	...	...	...	44.0	46.3	48.4	50.6	52.8	...	...	...	48.42	0.05	9.51	1.86	40.82
ζ SAGITTÆ. $a_0 = 19^h 43^m 17^s.72$																
Sept. 25	27.7	29.8	31.9	36.3	38.5	40.5	42.6	44.9	49.1	51.4	53.6	40.57	+0.00	-23.96	+1.12	43 17.73
28	...	...	...	18.1	20.4	22.5	24.8	26.9	...	...	...	22.54	0.02	6.07	1.18	17.67
Oct. 8	10.4	12.5	14.6	18.9	21.0	23.2	25.4	27.5	31.9	34.1	36.3	23.25	0.01	6.87	1.36	17.75
16	...	...	...	20.0	22.3	24.4	26.6	28.8	...	...	...	24.42	0.01	8.21	1.51	17.73
22	11.0	13.0	15.0	19.4	21.6	23.8	26.0	28.1	32.5	34.7	36.8	23.81	0.03	7.79	1.62	17.67
23	11.2	13.1	15.4	19.7	21.8	24.0	26.2	28.4	32.7	34.9	37.1	24.04	0.02	7.94	1.64	17.76
α AQUILÆ.* $a_0 = 19^h 44^m 32^s.27$																
Oct. 4	...	...	...	33.0	35.1	37.2	39.2	41.4	...	...	...	37.18	-0.01	-6.34	+1.42	44 32.25
5	24.8	27.0	29.0	33.1	35.2	37.3	39.4	41.5	45.5	47.6	49.7	37.28	-0.01	6.44	1.44	32.27
16	...	...	...	...	...	38.6	40.8	42.9	47.1	49.3	51.3	38.78	-0.01	8.21	1.64	32.20
23	...	...	...	34.2	36.4	38.4	40.5	42.6	...	...	...	38.42	+0.00	7.94	1.76	32.24
29	27.2	29.3	31.4	35.6	37.8	39.8	41.6	44.0	48.1	50.1	52.3	39.74	+0.00	9.40	1.86	32.20
Nov. 2	27.4	29.5	31.5	35.7	37.7	39.8	42.0	44.0	48.1	50.2	52.4	39.84	+0.01	9.51	1.92	32.26

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean Reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.	
			E.	G.									
β SAGITTÆ. $\delta_0 = + 17^\circ 10' 51''.3$													
Sept. 25	m. 35	s. 21.8	10	2	30.8	2.3	12 16.55	12 40.72	10 7.63	-0 26.86	-1.36 +79.16	-6.77	10 51.8
Oct. 4	35	18.5	10	2	18.1	22.8	12 20.45	12 26.21	10 22.14	0 26.81	1.41 61.76	7.02	48.7
8	35	6.2	10	1	58.3	61.4	11 59.85	12 23.13	10 25.22	0 27.56	1.37 62.21	7.04	51.5
16	35	6.9	10	1	57.8	64.0	12 0.90	12 23.54	10 24.81	0 27.41	1.39 63.63	6.94	52.7
22	35	1.1	10	1	52.7	59.6	11 56.15	12 25.57	10 22.78	0 26.74	1.40 63.08	6.72	51.0
Nov. 2	35	6.3	10	1	59.1	59.2	11 59.15	12 23.96	10 24.39	0 27.66	1.40 62.34	6.03	51.6
 Pl. XIX. 243. $\delta_0 = - 32^\circ 12' 53''.6$													
Sept. 24	37	52.5	30	3	38.7	10.8	33 24.75	33 48.08	10 59.73	-3 18.52	-2.61 +78.86	+8.60	12 53.4
28	38	22.6	30	4	25.7	56.1	34 10.90	33 39.98	10 51.63	3 24.88	2.65 79.32	8.86	51.0
Oct. 4	37	28.6	30	2	56.6	61.2	32 58.90	33 29.37	10 41.02	3 23.24	2.61 61.76	9.20	55.9
16	38	15.2	30	3	40.0	47.2	33 43.60	33 23.10	10 34.75	3 27.72	2.79 63.63	9.73	51.9
22	37	49.2	30	3	18.9	25.3	33 22.10	33 30.59	10 42.24	3 22.75	2.84 63.08	9.86	54.9
 γ AQUILÆ.* $\delta_0 = + 10^\circ 18' 10''.5$													
Sept. 24	40	43.2	5	0	44.3	14.6	5 29.45	5 15.88	17 32.47	-0 34.86	-1.32 +78.86	-4.71	18 10.4
25	40	19.4	5	0	12.0	41.9	4 56.95	5 14.99	17 33.36	0 35.78	1.92 79.16	4.71	10.1
28	39	57.1	5	0	5.0	34.3	4 49.65	5 13.36	17 34.99	0 36.02	1.90 79.32	4.81	11.6
Oct. 8	39	54.4	0	4	27.2	30.6	4 28.90	4 57.09	17 51.26	0 36.71	2.06 62.21	4.91	9.8
16	40	11.3	0	4	47.8	53.3	4 50.55	4 58.06	17 50.29	0 36.51	2.02 63.63	4.71	10.7
22	40	1.8	0	4	37.7	43.9	4 40.80	4 58.98	17 49.37	0 35.62	2.06 63.08	4.51	10.3
 δ SAGITTÆ.* $\delta_0 = + 18^\circ 13' 12''.6$													
Sept. 25	42	23.9	10	1	5.5	35.9	10 50.70	10 24.63	12 23.72	-0 24.96	-1.12 +78.86	-6.56	13 9.9
25	42	16.9	10	0	54.9	25.2	10 40.05	10 23.14	12 25.21	0 25.62	1.07 79.16	6.66	11.0
28	42	7.6	10	1	5.3	35.2	10 50.25	10 22.27	12 26.08	0 25.79	1.02 79.32	6.76	11.8
Oct. 8	41	59.9	10	0	20.3	25.4	10 22.85	10 5.56	12 42.79	0 26.29	1.05 62.21	7.06	10.6
16	42	13.3	10	0	35.7	42.6	10 39.15	10 6.34	12 42.01	0 26.14	1.18 63.63	6.96	11.4
23	41	19.7	5	4	28.0	34.5	9 31.25	10 5.96	12 42.39	0 25.12	1.85 63.49	6.76	12.1
Nov. 2	41	56.1	10	0	15.2	15.0	10 15.10	10 5.31	12 43.04	0 26.38	1.01 62.34	6.26	11.7
 ζ SAGITTÆ. $\delta_0 = + 18^\circ 49' 22''.3$													
Sept. 25	44	12.8	35	0	9.7	40.0	34 54.85	34 14.05	48 34.30	-0 24.90	-1.50 +79.16	-6.69	49 20.4
28	43	35.4	30	4	43.8	12.9	34 28.35	34 12.00	48 36.35	0 24.78	1.54 79.32	6.78	22.6
Oct. 8	(43 13.7)	30	3	57.5	46.7	33 52.10	34 4.14	48 44.21	0 25.54	1.61 62.21	7.09	(12.2)	
16	43	35.6	30	4	8.7	15.4	34 12.05	33 57.86	48 50.49	0 25.41	1.62 63.63	7.04	20.1
22	43	18.0	30	3	48.8	53.5	33 51.15	33 58.50	48 49.85	0 24.79	1.59 63.08	6.89	19.8
23	43	32.3	30	4	6.8	12.4	34 9.60	33 59.07	48 49.28	0 24.41	1.64 63.49	6.82	19.9
 α AQUILÆ.* $\delta_0 = + 8^\circ 31' 54''.9$													
Oct. 4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
5	44	27.5	50	0	56.8	62.0	50 59.40	51 12.37	31 35.98	-0 37.90	-1.50 +62.62	-4.09	31 55.1
16	44	57.9	50	1	34.7	40.8	51 37.75	51 12.45	31 35.90	0 39.06	1.61 63.63	3.89	55.0
23	44	49.8	50	1	26.7	32.0	51 29.35	51 14.25	31 34.10	0 37.54	1.59 63.49	3.69	54.8
29	44	18.8	50	0	42.2	43.2	50 42.70	51 10.38	31 37.97	0 39.30	1.47 61.51	3.39	55.3
Nov. 2	44	21.3	50	0	47.8	48.1	50 47.95	51 12.59	31 35.76	0 39.41	1.49 62.34	3.09	54.1

Date.		Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ.	ΔT + m.	Red. to 1872.0.	Mean Right Ascension for 1872.0.		
1871.		1	2	3	4	5	6	7	8	9	10	11							
		η AQUILÆ.*											a ₀ = 19 ^h 45 ^m 57 ^s .11						
Oct.	4	49.7	51.7	53.8	57.8	59.9	2.0	4.0	6.1	10.1	12.2	14.3	1.96	-0.01	-	6.34	+1.51	45	57.12
	5	49.9	51.9	53.9	58.0	0.1	2.1	4.1	6.2	10.3	12.4	14.4	2.12	0.02	-	6.44	1.53		57.19
	8	...	...	...	58.4	0.3	2.4	4.5	6.5	...	...	...	2.42	0.01	-	6.87	1.58		57.12
	22	50.7	52.8	54.9	59.0	1.0	3.1	5.1	7.2	11.3	13.4	15.5	3.09	0.01	-	7.79	1.81		57.10
	23	50.9	53.0	55.0	59.2	1.2	3.2	5.2	7.4	11.5	13.6	15.6	3.25	0.01	-	7.94	1.83		57.13
Nov.	2	52.3	54.3	56.5	0.5	2.7	4.7	6.7	8.8	12.9	15.0	17.0	4.67	0.01	-	9.51	1.98		57.13
		ε DRACONIS.*											a ₀ = 19 ^h 48 ^m 35 ^s .70						
Sept.	24	25.3	30.9	36.9	49.0	55.1	1.0	7.0	13.0	25.0	31.1	37.0	1.03	+0.03	-	23.74	-1.56	48	35.76
	25	25.4	30.9	37.0	49.0	54.9	1.0	7.0	13.0	25.0	31.0	36.8	1.00	0.08	-	23.96	-1.50		35.62
Oct.	5	6.8	12.9	19.0	30.9	36.8	42.8	48.9	54.9	6.7	12.9	18.8	42.86	0.09	-	6.44	-0.84		35.67
	8	7.3	13.1	19.1	31.2	37.2	43.0	49.1	55.2	7.1	13.1	19.1	43.14	0.14	-	6.87	-0.66		35.75
	16	8.1	14.1	20.2	32.2	38.1	44.0	49.9	56.0	8.0	13.9	19.9	44.04	0.18	-	8.21	-0.14		35.87
	22	6.8	12.8	18.7	30.9	36.8	42.8	48.8	54.8	6.8	13.0	18.9	42.83	0.36	-	7.79	+0.27		35.67
	29	8.3	14.4	20.1	32.0	38.1	44.1	50.1	56.3	7.8	14.2	20.0	44.13	0.29	-	9.40	+0.74		35.76
		β AQUILÆ.*											a ₀ = 19 ^h 49 ^m 1 ^s .53						
Sept.	27	53.6	55.7	57.8	2.0	3.9	5.9	8.1	10.2	14.4	16.5	18.5	6.05	-0.00	-	5.87	+1.32	49	1.50
Oct.	4	54.1	56.2	58.2	2.3	4.4	6.5	8.6	10.6	14.8	16.8	18.8	6.48	-0.01	-	6.34	1.44		1.57
	23	55.3	57.4	59.4	3.6	5.6	7.7	9.8	11.9	16.0	18.1	20.2	7.73	-0.00	-	7.94	1.74		1.53
	30	56.6	58.6	0.7	4.8	7.0	9.0	11.1	13.2	17.3	19.3	21.4	9.00	+0.01	-	9.29	1.87		1.59
		λ URSÆ MINORIS.*											a ₀ = 19 ^h 52 ^m 18 ^s .96						
Sept.	27	...	...	...	...	...	20.0	8.7	0.9	...	...	...	19.90	+5.16	-	5.87	-58.82	52	20.37
Oct.	4	...	...	...	...	24.5	12.6	2.4	...	...	...	...	13.20	2.33	-	6.34	51.72		17.47
	8	...	...	...	...	20.7	7.4	58.9	47.7	...	...	...	8.70	2.65	-	6.87	46.00		18.48
	16	...	...	...	...	9.1	59.8	49.2	39.4	...	...	...	59.40	3.40	-	8.21	25.80		18.79
	22	...	...	...	...	56.4	47.3	36.9	26.4	...	...	...	46.78	7.03	-	7.79	27.10		18.92
	23	...	...	...	...	59.3	...	36.1	28.1	...	...	...	47.87	4.52	-	7.94	25.70		18.75
Nov.	30	...	...	...	55.0	45.2	34.8	24.9	14.3	...	...	...	34.84	9.86	-	9.29	16.74		18.67
	2	...	...	...	48.3	42.7	31.8	21.3	11.7	...	...	...	31.16	9.43	-	9.51	12.42		18.66
	5	...	...	...	...	...	...	...	...	...	30.8	22.4	22.07	9.86	-	9.59	8.09		14.25
		e DRACONIS.											a ₀ = 20 ^h 0 ^m 6 ^s .88						
Sept.	25	3.4	7.9	12.4	22.4	27.0	31.9	36.5	41.1	50.7	55.4	0.3	31.73	+0.06	-	23.96	-0.84	0	6.99
Oct.	8	45.3	50.0	54.8	4.4	9.0	13.9	18.7	23.4	33.0	37.9	42.6	13.91	0.10	-	6.87	-0.20		6.94
	16	...	...	...	5.3	9.9	14.9	19.8	24.1	...	...	...	14.80	0.13	-	8.21	+0.21		6.93
	23	...	...	...	4.7	9.3	14.0	19.0	23.6	...	...	...	14.12	0.17	-	7.94	+0.57		6.92
	30	46.4	51.2	55.9	5.2	10.0	14.8	19.6	24.6	34.0	38.9	43.5	14.92	0.38	-	9.29	+0.95		6.96
Nov.	2	46.4	51.0	55.8	5.5	10.1	14.9	19.8	24.6	34.0	38.8	43.7	14.96	0.37	-	9.51	+1.11		6.93
		B. A. C. 6924.											a ₀ = 20 ^h 2 ^m 26 ^s .63						
Oct.	8	11.4	14.9	18.6	26.0	29.8	33.4	37.0	40.6	48.1	51.5	55.4	33.34	+0.07	-	6.87	+0.33	2	26.87
	23	11.8	15.5	19.2	26.5	30.1	33.9	37.4	41.1	48.4	52.3	55.9	33.83	0.12	-	7.94	0.89		26.90
	30	12.7	16.4	20.3	27.3	31.0	34.8	38.5	42.1	49.6	53.2	56.8	34.79	0.27	-	9.29	1.15		26.92
Nov.	2	12.7	16.5	20.0	27.5	31.2	34.9	38.4	42.1	49.6	53.1	57.0	34.82	0.26	-	9.51	1.26		26.83

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872 9.	Mean Declination for 1872.0.
			E.	G.								
η AQUILÆ.* $\delta_0 = + 0^\circ 40' 43''.1$												
Oct. 4	46 22.7	40 2	37.9	43.3	42 40.60	42 12.89	40 35.46	-0 50.75	-2.04	+61.76	-1.59	40 42.8
5	46 17.7	40 2	30.3	37.0	42 33.65	42 12.77	40 35.58	0 50.35	2.02	62.62	1.59	44.2
8	46 17.4	40 2	28.0	33.5	42 30.75	42 10.67	40 37.68	0 52.17	2.01	62.21	1.59	44.1
22	45 42.9	40 1	44.8	50.6	41 47.70	42 14.74	40 33.61	0 50.62	1.89	63.08	1.19	43.0
23	46 3.7	40 2	13.2	20.1	42 16.65	42 15.98	40 32.37	0 49.85	1.96	63.49	1.09	43.0
Nov. 2	46 25.2	40 2	38.8	39.9	42 39.35	42 11.91	40 36.44	0 52.38	2.03	62.34	0.79	43.7
ϵ DRACONIS.* $\delta_0 = + 69^\circ 56' 30''.0$												
Sept. 24	48 13.1	25 2	48.0	11.8	27 29.90	27 51.90	54 56.45	+0 29.05	+0.37	+78.86	-11.95	56 32.8
25	48 7.9	25 2	48.7	12.0	27 30.35	27 54.74	54 53.61	0 29.82	0.28	79.16	12.15	30.7
Oct. 5	47 50.2	25 2	13.0	12.0	27 12.50	27 36.66	55 11.69	0 29.52	0.24	62.62	13.25	30.8
8	47 53.4	25 2	14.9	12.5	27 13.70	27 36.53	55 11.82	0 30.59	0.29	62.21	13.55	31.4
16	47 57.6	25 2	17.7	15.7	27 16.70	27 38.01	55 10.34	0 30.42	0.36	63.63	14.05	30.7
22	48 24.3	25 2	28.2	27.1	27 27.65	27 36.10	55 12.25	0 29.68	0.63	63.08	14.15	31.5
29	47 48.4	25 2	14.2	7.9	27 11.05	27 36.63	55 11.72	0 30.61	0.19	61.51	14.15	29.9
β AQUILÆ.* $\delta_0 = + 6^\circ 5' 19''.6$												
Sept. 27	49 27.6	15 3	42.0	11.0	18 26.50	17 57.75	4 50.60	-0 41.96	-1.86	+76.78	-3.30	5 20.3
Oct. 4	49 23.1	15 3	3.9	9.3	18 6.60	17 44.50	5 3.85	0 41.83	1.93	61.76	3.30	18.6
23	48 44.4	15 2	12.9	19.4	17 16.15	17 47.17	5 1.18	0 41.10	1.81	63.49	3.80	18.0
30	49 19.6	15 2	56.2	57.3	17 56.75	17 42.64	5 5.71	0 43.66	1.90	62.41	2.50	20.1
λ URSÆ MINORIS.* $\delta_0 = + 88^\circ 55' 23''.9$												
Sept. 27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oct. 4	51 3.8	25 4	16.5	11.4	29 13.95	29 17.20	53 31.15	+1 0.11	+0.85	+61.76	-10.36	55 23.5
8	51 59.6	25 4	19.3	12.7	29 16.00	29 17.73	53 30.62	1 1.80	0.95	62.21	11.86	23.7
16	53 32.9	25 4	20.4	15.9	29 18.15	29 17.28	53 31.07	0 59.90	1.04	63.63	12.56	23.1
22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nov. 2	56 26.0	25 4	27.0	15.3	29 21.15	29 16.74	53 31.61	1 3.39	1.07	62.34	12.96	25.4
5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
e DRACONIS. $\delta_0 = + 64^\circ 27' 45''.9$												
Sept. 25	0 29.1	55 1	50.1	13.2	56 31.65	56 33.15	26 15.20	+0 23.20	+0.69	+79.16	-11.27	27 47.0
Oct. 8	59 27.9	55 0	49.4	45.4	55 47.40	56 13.96	26 34.39	0 23.79	0.30	62.21	12.90	47.8
16	0 0.9	55 1	8.7	5.2	56 6.95	56 14.98	26 33.37	0 23.67	0.66	63.63	13.48	47.8
23	0 4.2	55 1	8.7	7.3	56 8.00	56 13.73	26 34.62	0 22.73	0.68	63.49	13.69	47.8
30	59 31.8	55 0	53.5	45.7	55 49.60	56 14.48	26 33.87	0 24.14	0.35	62.41	13.63	47.1
Nov. 2	0 49.6	55 1	39.7	29.0	56 34.35	56 14.31	26 34.04	0 23.89	0.36	62.34	13.52	47.1
B. A. C. 6924. $\delta_0 = + 55^\circ 58' 16''.4$												
Oct. 8	1 58.4	25 0	7.5	3.9	25 5.70	25 31.85	57 16.50	+0 14.18	+0.21	+62.21	-12.48	58 20.6
23	1 53.0	25 0	0.2	1.5	25 0.85	25 31.42	57 16.93	0 13.55	0.12	63.49	13.10	21.0
30	2 8.7	25 0	15.4	8.9	25 12.15	25 31.71	57 16.64	0 14.39	0.34	62.41	12.99	20.8
Nov. 2	2 6.9	25 0	15.7	9.0	25 12.35	25 33.26	57 15.09	0 14.24	0.31	62.34	12.87	19.1

Date.	Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ.	ΔT + m.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
1871.	1	2	3	4	5	6	7	8	9	10	11					
θ AQUILÆ.* α ₀ = 20 ^h 4 ^m 41 ^s .98																
Sept. 25	52.5	54.4	56.5	0.5	2.6	4.7	6.8	8.9	13.0	15.0	17.0	4.72	-0.01	-23.96	+1.31	4 42.06
27	34.2	36.2	38.3	42.5	44.5	46.6	48.7	50.7	54.8	56.8	58.9	46.56	0.02	5.87	1.34	42.01
Oct. 8	35.0	37.2	39.2	43.3	45.3	47.4	49.5	51.5	55.6	57.6	59.6	47.38	0.02	6.87	1.50	41.99
9	...	...	...	43.1	45.2	47.3	49.4	51.5	...	...	...	47.30	0.02	6.82	1.51	41.97
23	36.0	38.0	40.0	44.1	46.2	48.3	50.3	52.3	56.4	58.5	60.6	48.24	0.02	7.94	1.74	42.02
30	37.2	39.1	41.3	45.3	47.5	49.5	51.5	53.6	57.7	59.8	61.9	49.49	0.02	9.29	1.85	42.03
Nov. 2	37.3	39.4	41.4	45.6	47.6	49.7	51.7	53.7	57.9	59.8	61.9	49.64	0.02	9.51	1.90	42.01
20 VULPECULÆ. α ₀ = 20 ^h 6 ^m 38 ^s .64																
Sept. 25	48.0	50.3	52.6	57.2	59.4	1.7	4.0	6.3	10.0	13.2	15.5	1.66	+0.01	-23.96	+0.88	6 38.59
Oct. 8	30.7	32.9	35.2	39.8	42.0	44.4	46.6	48.9	52.5	55.8	58.2	44.27	0.01	6.87	1.13	38.54
9	30.7	33.0	35.2	39.8	42.0	44.3	46.7	49.0	52.5	55.9	58.2	44.30	0.00	6.82	1.15	38.63
23	31.4	33.7	36.0	40.5	42.8	45.1	47.4	49.6	54.3	56.6	58.8	45.11	0.03	7.94	1.43	38.63
30	32.5	35.0	37.2	41.7	44.0	46.4	48.6	50.9	55.5	57.7	60.0	46.32	0.08	9.29	1.56	38.67
Nov. 2	32.8	35.1	37.3	41.9	44.1	46.4	48.7	51.0	55.6	58.0	60.2	46.46	0.08	9.51	1.62	38.65
5	...	...	...	...	44.1	46.6	48.7	51.0	...	...	...	46.51	0.08	9.59	1.68	38.68
ρ AQUILÆ. α ₀ = 20 ^h 8 ^m 21 ^s .17																
Sept. 25	31.4	33.5	35.7	40.0	42.0	44.0	46.3	48.3	52.6	54.8	56.8	44.13	-0.01	-23.96	+1.07	7 21.23
Oct. 8	14.1	16.3	18.5	22.6	24.7	26.9	28.9	31.1	35.3	37.4	39.6	26.85	-0.00	6.87	1.29	21.27
9	...	...	...	22.5	24.7	26.9	29.0	31.1	...	...	...	26.84	-0.01	6.82	1.31	21.32
23	14.9	16.0	19.1	23.5	25.4	27.6	29.7	31.9	36.1	38.3	40.4	27.54	+0.01	7.94	1.55	21.16
30	16.0	18.2	20.3	24.6	26.7	28.8	30.9	33.1	37.2	39.4	41.5	28.79	+0.04	9.29	1.67	21.21
Nov. 2	16.3	18.4	20.6	24.7	26.9	29.0	31.1	33.3	37.5	39.8	41.8	29.04	+0.03	9.51	1.72	21.28
5	16.2	18.4	20.6	24.7	26.8	29.0	31.1	33.3	37.4	39.6	41.8	28.99	+0.04	9.59	1.77	21.21
α ¹ —α ² CAPRICORNI. α ₀ = 20 ^h 10 ^m 57 ^s .04																
Sept. 25	43.0	45.2	47.2	51.4	53.6	55.7	57.8	0.0	4.1	6.2	8.4	55.69	-0.03	-23.96	+1.38	10 33.08
Oct. 8	26.0	28.0	30.1	34.3	36.4	38.4	40.6	42.7	46.9	49.0	51.1	38.50	0.03	6.87	1.58	33.18
9	...	...	...	34.1	36.3	38.4	40.4	42.7	...	...	...	38.38	0.02	6.82	1.60	33.14
23	50.6	52.7	54.8	59.0	1.1	3.2	5.3	7.4	11.6	13.8	15.9	3.22	0.04	7.94	1.82	57.06
30	51.8	53.8	56.0	0.2	2.4	4.5	6.6	8.7	12.9	15.1	17.2	4.47	0.06	9.29	1.92	57.04
Nov. 2	27.9	30.2	32.3	36.4	38.5	40.7	42.7	44.9	49.1	51.3	53.3	40.66	0.06	9.51	1.97	33.06
5	52.0	54.2	56.3	0.6	2.6	4.7	6.8	8.9	13.1	15.3	17.5	4.73	0.06	9.59	2.02	57.10
κ CEPHEI.* α ₀ = 20 ^h 13 ^m 9 ^s .23																
Sept. 25	41.2	50.3	59.5	17.4	27.4	37.3	46.4	55.7	14.9	24.0	33.3	37.04	+0.13	-23.96	-3.84	13 9.37
27	22.0	31.6	41.3	0.1	9.2	18.9	28.0	37.7	56.3	5.7	14.8	18.69	0.43	5.87	-3.65	9.60
Oct. 8	22.3	31.9	40.9	59.6	9.4	18.6	27.9	37.3	...	...	...	18.56	0.22	6.87	-2.55	9.36
30	22.6	31.3	41.1	59.5	8.6	18.3	27.2	36.7	55.6	5.1	14.4	18.22	0.82	9.29	-0.19	9.56
Nov. 5	...	...	...	58.9	8.2	18.2	26.9	36.6	54.9	5.0	13.8	17.86	0.82	9.59	+0.45	9.54
β CAPRICORNI. α ₀ = 20 ^h 13 ^m 48 ^s .98																
Oct. 16	42.4	44.5	46.6	50.9	53.0	55.1	57.2	59.3	3.3	5.8	7.9	55.09	-0.04	-7.71	+1.72	13 49.06
23	42.5	44.6	46.6	51.0	53.1	55.3	57.3	59.5	63.7	66.0	68.0	55.24	0.04	7.94	1.83	49.09
Nov. 9	43.0	45.1	47.3	51.4	53.5	55.7	57.7	59.9	4.4	6.4	8.6	55.72	0.07	8.63	2.09	49.11

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.*								
θ AQUILÆ.* $\delta_0 = -1^\circ 11' 58''.1$												
Sept. 25	m. 4 43.4	s. 30	4 55.9	26.6	34 41.25	35 9.76	12 21.41	-0 54.36	-2.24	+79.16	-0.32	11 59.2
27	4 27.7	30	4 56.5	28.9	34 42.70	35 8.00	12 19.65	0 54.40	2.24	76.78	0.32	59.8
Oct. 8	4 26.5	30	4 19.3	24.8	34 22.05	34 50.02	12 1.67	0 55.75	2.36	62.21	0.32	57.9
9	4 57.4	30	5 3.0	10.0	35 06.50	34 52.93	12 4.58	0 54.10	1.65	62.87	-0.32	57.4
23	4 33.7	30	4 30.2	38.9	34 34.55	34 53.96	12 5.61	0 53.26	2.40	63.49	+0.08	57.7
30	4 35.4	30	4 30.1	32.5	34 31.30	34 50.17	12 1.82	0 56.55	2.40	62.41	+0.38	58.0
Nov. 2	4 40.9	30	4 39.3	40.8	34 40.05	34 51.70	12 3.35	0 55.99	2.42	62.34	+0.48	58.9
20 VULPECULÆ. $\delta_0 = +26^\circ 5' 52''.1$												
Sept. 25	6 46.9	15	2 47.3	16.1	17 31.70	17 49.50	4 58.85	-0 16.70	-1.03	+79.16	-6.96	5 53.3
Oct. 8	6 27.7	15	2 10.4	11.0	17 10.70	17 30.66	5 17.69	0 17.13	1.09	62.21	7.75	53.9
9	6 24.3	15	2 8.7	9.9	17 9.30	17 33.47	5 14.88	0 16.62	1.10	62.87	7.78	54.2
23	6 23.3	15	2 4.6	7.8	17 6.20	17 32.29	5 16.06	0 16.36	1.11	63.49	7.85	54.2
30	6 24.7	15	2 7.2	3.7	17 5.45	17 31.42	5 16.93	0 17.37	1.11	62.41	7.60	53.3
Nov. 2	6 26.1	15	2 8.8	5.2	17 7.00	17 31.41	5 16.94	0 17.20	1.10	62.34	7.43	53.5
5	6 41.3	15	2 30.7	23.0	17 26.85	17 33.10	5 15.25	0 17.58	0.87	62.73	7.24	52.3
ρ AQUILÆ. $\delta_0 = +14^\circ 48' 33''.5$												
Sept. 25	8 28.7	30	4 54.0	24.7	34 39.35	34 59.30	47 49.05	-0 29.86	-1.71	+79.16	-4.40	48 32.2
Oct. 8	8 6.5	30	4 11.8	16.9	34 14.35	34 40.63	48 7.72	0 30.62	1.84	62.21	4.85	32.6
9	8 35.8	30	4 51.7	56.3	34 54.00	34 42.35	48 6.00	0 29.72	1.92	62.87	4.86	32.4
23	8 24.4	30	4 36.7	41.5	34 39.10	34 43.11	48 5.24	0 29.26	1.86	63.49	4.73	32.9
30	8 10.9	30	4 17.9	19.0	34 18.45	34 41.62	48 6.73	0 31.06	1.85	62.41	4.43	31.8
Nov. 2	8 11.2	30	4 18.1	19.0	34 18.55	34 41.59	48 6.76	0 30.75	1.85	62.34	4.27	32.2
5	8 12.7	30	4 21.7	18.6	34 20.15	34 41.25	48 7.10	0 31.43	1.45	62.73	4.08	32.9
$\alpha^1 - \alpha^2$ CAPRICORN. $\delta_0 = -12^\circ 56' 23''.3$												
Sept. 25	10 33.2	15	1 38.7	13.4	16 26.05	16 55.40	54 7.05	-1 22.33	-2.07	79.16	+3.36	54 8.9
Oct. 8	10 24.2	15	1 12.7	20.3	16 16.50	16 35.16	53 46.81	1 24.42	2.13	62.21	3.86	54 7.3
9	10 45.9	15	1 44.8	52.5	16 48.65	16 38.86	53 50.51	1 21.95	2.25	62.87	3.86	54 8.0
23	10 47.5	15	3 32.0	42.4	18 37.20	18 57.68	56 9.33	1 20.64	2.50	63.49	4.56	56 24.4
30	10 47.4	15	3 27.0	32.0	18 29.50	18 51.81	56 3.46	1 25.61	2.49	62.41	4.76	56 24.4
Nov. 2	11 2.4	15	2 4.1	7.3	17 5.70	16 37.39	53 49.04	1 24.79	2.25	62.34	5.06	54 8.7
5	11 3.6	15	3 53.3	53.2	18 53.25	18 54.68	56 6.33	1 26.64	2.25	62.73	5.16	56 27.3
κ CEPHEI.* $\delta_0 = +77^\circ 19' 28''.7$												
Sept. 25	13 2.3	5	0 20.2	43.5	5 1.85	5 12.05	17 36.30	+0 39.95	+1.20	+79.16	-9.69	19 26.9
27	12 5.4	5	0 3.9	23.6	4 43.75	5 5.29	17 43.06	0 39.98	0.10	76.78	9.99	29.9
Oct. 8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
30	12 49.6	0	4 45.8	36.8	4 41.30	4 49.71	17 58.64	0 41.55	0.46	62.41	13.39	29.7
Nov. 5	12 55.0	0	4 49.4	35.0	4 42.20	4 48.93	17 59.42	0 42.05	0.91	62.73	13.29	31.8
β CAPRICORN. $\delta_0 = -15^\circ 11' 0''.7$												
Oct. 16	13 42.0	30	3 2.7	11.9	33 7.30	33 24.22	10 35.87	-1 31.50	-2.47	+62.69	+5.10	12 2.0
23	13 51.4	30	3 19.8	29.6	33 24.70	33 29.61	10 41.26	1 27.89	2.57	63.49	5.41	2.8
Nov. 9	13 42.7	30	3 8.0	7.9	33 7.95	33 24.74	10 36.39	1 33.69	2.22	63.04	6.12	3.1

Date. 1871.	Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
B. A. C. 7008. $\alpha_0 = 20^h 15^m 36^s.92$																
Sept. 25	44.4	47.0	49.6	54.9	57.6	0.2	2.8	5.5	10.9	13.5	16.1	0.23	+0.02	-23.96	+0.54	15 36.83
Oct. 8	27.0	29.6	32.3	37.6	40.3	43.0	45.5	48.1	53.4	56.1	58.8	42.88	0.03	6.87	0.84	36.88
9	26.8	29.6	32.2	37.6	40.2	42.9	45.5	48.2	53.4	55.9	58.7	42.82	0.00	6.82	0.86	36.86
22	26.6	30.3	33.0	38.1	40.8	43.4	46.1	48.6	54.0	56.7	59.4	43.36	0.10	7.79	1.17	36.84
23	27.8	30.3	33.0	38.4	40.9	43.6	46.2	48.9	54.2	56.8	59.4	43.59	0.06	7.94	1.20	36.91
29	29.0	31.6	34.3	39.6	42.3	44.8	47.5	50.3	55.4	58.0	60.6	44.85	0.08	9.40	1.35	36.88
30	...	...	...	39.3	42.0	44.6	47.3	50.0	...	...	...	44.64	0.14	9.29	1.37	36.86
Nov. 5	29.1	31.6	34.1	39.6	42.2	44.8	47.4	50.1	55.4	58.1	60.7	44.83	0.14	9.59	1.51	36.89
γ CYGNI.* $\alpha_0 = 20^h 17^m 38^s.09$																
Sept. 27	27.2	29.9	32.6	38.0	40.5	43.3	46.0	48.6	53.9	56.8	59.6	43.31	+0.07	-5.87	+0.55	17 38.06
Oct. 8	28.0	30.7	33.3	38.7	41.4	44.0	46.7	49.4	54.8	57.4	0.2	44.05	0.03	6.87	0.80	38.01
9	28.0	30.7	33.4	38.7	41.4	44.0	46.8	49.4	54.7	57.5	0.0	44.05	0.00	6.82	0.82	38.05
16	28.7	31.3	34.0	39.3	42.0	44.7	47.4	50.0	55.4	58.2	0.8	44.71	0.05	7.71	1.00	38.05
22	28.6	31.2	34.0	39.3	42.0	44.6	47.2	50.0	55.3	58.1	0.7	44.64	0.10	7.79	1.14	38.09
23	28.8	31.4	34.1	39.4	42.0	44.7	47.4	50.2	55.4	58.1	0.8	44.75	0.06	7.94	1.16	38.03
30	30.0	32.4	35.1	40.5	43.3	45.9	48.6	51.3	56.7	59.3	2.0	45.92	0.15	9.29	1.33	38.11
Nov. 5	30.0	32.6	35.3	40.6	43.2	46.1	48.6	51.4	56.7	59.5	2.1	46.01	0.15	9.59	1.47	38.04
9	28.8	31.6	34.1	39.6	42.1	44.9	47.6	50.3	55.5	58.4	1.0	44.90	0.16	8.63	1.57	38.00
π CAPRICORNI. $\alpha_0 = 20^h 19^m 59^s.54$																
Oct. 8	52.0	54.2	56.3	0.6	2.8	5.0	7.2	9.4	13.8	15.8	17.9	5.00	-0.04	-6.87	+1.58	19 59.67
9	51.9	54.1	56.2	0.6	2.8	4.9	7.0	9.1	13.6	15.7	17.8	4.88	0.02	6.82	1.60	59.64
15	...	...	...	1.2	3.3	5.4	7.5	9.7	...	...	...	5.72	0.04	7.48	1.70	59.60
23	52.7	55.0	57.0	1.3	3.6	5.7	7.9	10.1	14.4	16.5	18.7	5.72	0.05	7.94	1.83	59.56
29	...	...	...	2.9	5.0	7.1	9.2	11.4	...	...	...	7.12	0.06	9.40	1.92	59.58
30	53.5	56.1	58.3	2.7	4.9	7.0	9.0	11.3	15.6	17.8	20.0	6.93	0.08	9.29	1.94	59.50
Nov. 2	54.1	56.4	58.4	2.7	4.8	7.1	9.1	11.5	15.8	17.9	20.3	7.10	0.08	9.51	1.99	59.50
5	...	...	...	2.9	5.0	7.2	9.3	11.5	...	...	...	7.18	0.08	9.59	2.04	59.55
9	53.3	55.4	57.6	1.9	4.1	6.3	8.4	10.4	15.0	17.1	19.3	6.25	0.09	8.63	2.10	59.63
ρ CAPRICORNI pr. $\alpha_0 = 20^h 21^m 33^s.42$																
Oct. 9	25.9	28.0	30.2	34.4	36.6	38.7	40.9	43.1	47.4	49.6	51.9	38.79	-0.02	-6.82	+1.59	21 33.54
15	...	...	...	34.9	37.1	39.2	41.4	43.5	...	...	...	39.22	0.04	7.48	1.69	33.39
22	...	...	...	35.3	37.3	39.6	41.7	43.8	...	...	...	39.54	0.06	7.79	1.80	33.49
30	27.5	30.0	32.3	36.6	38.9	41.0	43.1	45.2	49.6	51.7	53.9	40.89	0.08	9.29	1.92	33.44
Nov. 2	...	...	...	36.7	38.9	41.0	43.2	45.4	...	...	...	41.04	0.08	9.51	1.97	33.42
5	28.2	30.3	32.4	36.9	38.9	41.1	43.3	45.5	49.8	52.0	54.0	41.13	0.08	9.59	2.02	33.48
9	27.2	29.3	31.4	35.8	38.0	40.1	42.3	44.6	48.8	51.0	53.1	40.15	0.09	8.63	2.08	33.51
41 CYGNI. $\alpha_0 = 20^h 24^m 9^s.98$																
Sept. 30	32.0	34.2	36.7	41.4	43.8	46.2	48.6	50.9	55.8	57.9	0.4	46.17	+0.03	-37.11	+0.83	24 9.92
Oct. 8	1.5	4.0	6.3	11.0	13.4	15.8	18.1	20.6	25.3	27.6	30.1	15.79	0.02	6.87	0.99	9.93
9	1.5	3.9	6.3	11.0	13.4	15.8	18.2	20.5	25.3	27.6	30.0	15.77	0.00	6.82	1.01	9.96
15	2.1	4.4	6.9	11.5	13.9	16.2	18.6	20.9	25.7	28.0	30.5	16.24	0.03	7.48	1.13	9.92
16	2.4	4.6	7.0	11.8	14.2	16.6	19.0	21.3	26.0	28.4	30.8	16.55	0.03	7.71	1.15	10.02
22	...	...	...	11.7	14.2	16.4	18.8	21.1	...	...	...	16.44	0.07	7.79	1.27	9.99
29	3.8	6.0	8.5	13.2	15.6	17.9	20.4	22.7	27.3	29.8	32.2	17.94	0.05	9.40	1.42	10.01
30	3.5	5.8	8.2	12.9	15.3	17.7	20.0	22.4	27.2	29.5	31.9	17.67	0.10	9.29	1.44	9.92
Nov. 5	3.7	6.0	8.5	13.1	15.5	17.8	20.2	22.7	27.4	29.8	32.0	17.88	0.10	9.59	1.55	9.94
9	2.6	5.0	7.4	12.1	14.5	16.8	19.1	21.5	26.1	28.7	31.1	16.81	0.11	8.63	1.63	9.92

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.							
			E.	G.															
B. A. C. 7008. $\delta_0 = + 39^\circ 0' 1''.5$																			
Sept. 25	15	33.4	20	3	41.4	8.0	23	24.70	23	52.59	58	55.76	-0	3.38	+0.78	+79.16	-8.49	0	3.8
Oct. 8	15	41.0	20	3	31.0	33.0	23	32.00	23	33.98	59	14.37	0	3.46	0.73	62.21	9.77		4.1
9	15	28.7	20	3	21.0	23.6	23	22.30	23	37.08	59	11.27	0	3.36	0.74	62.87	9.83		1.7
22	15	35.4	20	3	26.7	29.3	23	28.00	23	36.33	59	12.02	0	3.36	0.76	63.08	10.27		2.2
23	15	23.2	20	3	14.0	18.0	23	16.00	23	37.23	59	11.12	0	3.31	0.81	63.49	10.27		1.8
29	15	21.6	20	3	11.7	9.0	23	10.35	25	34.60	59	13.75	0	3.47	0.82	61.51	10.17		2.4
30	15	54.6	20	3	45.8	43.7	23	44.75	23	34.35	59	14.00	0	3.51	0.81	62.41	10.12		3.6
Nov. 5	15	27.1	20	3	20.6	8.9	23	14.75	23	33.17	59	15.18	0	3.56	0.49	62.73	9.93		4.9
γ CYGNI.* $\delta_0 = + 39^\circ 50' 53''.1$																			
Sept. 27	17	13.9	30	2	47.1	12.9	32	30.00	33	0.23	49	48.12	-0	2.52	-0.59	+76.78	-8.65	50	53.1
Oct. 8	17	16.9	30	2	15.6	16.1	32	15.85	32	43.71	50	4.64	0	2.58	0.68	62.21	9.65		53.9
9	17	12.9	30	2	11.8	15.2	32	13.50	32	45.47	50	2.88	0	2.51	0.71	62.87	9.75		52.8
16	17	26.2	30	2	24.7	27.2	32	25.95	32	44.97	50	3.38	0	2.57	0.58	62.69	10.15		52.8
22	17	17.6	30	2	18.2	18.8	32	18.50	32	46.26	50	2.09	0	2.51	0.69	63.08	10.25		51.7
23	17	18.4	30	2	16.7	20.3	32	18.50	32	45.53	50	2.82	0	2.47	0.67	63.49	10.25		52.9
30	17	16.6	30	2	16.5	12.6	32	14.55	32	44.67	50	3.68	0	2.62	0.70	62.41	10.35		52.4
Nov. 5	17	18.9	30	2	21.5	14.3	32	17.90	32	45.76	50	2.59	0	2.65	0.48	62.73	10.05		52.1
9	(17 25.5)		30	2	33.3	28.1	32	30.70	32	50.54	49	57.81	0	2.63	0.40	63.04	9.85	(48.0)	
π CAPRICORNI. $\delta_0 = - 18^\circ 37' 45''.9$																			
Oct. 8	19	49.6	55	4	31.1	38.8	59	34.95	59	54.48	37	6.13	-1	45.40	-2.81	+62.21	+6.10	37	46.0
9	19	43.6	55	4	25.6	37.0	59	31.30	59	58.32	37	9.97	1	42.38	2.76	62.87	6.15		46.1
15	20	31.6	60	0	26.9	41.5	60	34.20	60	0.96	37	12.61	1	44.09	2.06	65.73	6.45		46.6
23	19	45.0	55	4	30.3	40.8	59	35.55	60	1.81	37	13.46	1	40.70	2.77	63.49	6.85		46.6
29	20	17.0	60	0	3.9	10.2	60	7.05	59	54.49	37	6.14	1	45.53	2.08	61.51	7.12		45.1
30	20	1.3	55	4	46.0	51.0	59	48.50	59	55.61	37	7.26	1	46.89	2.89	62.41	7.16		47.5
Nov. 2	20	28.4	60	0	22.2	26.3	60	24.25	59	57.23	37	8.88	1	45.90	2.07	62.34	7.28		47.2
5	20	17.9	60	0	8.9	10.4	60	9.65	59	56.08	37	7.73	1	48.25	2.06	62.73	7.40		47.9
9	19	48.5	55	4	34.0	34.5	59	34.25	59	56.70	37	8.35	1	47.35	2.39	63.04	7.57		47.5
ρ CAPRICORNI pr. $\delta_0 = - 18^\circ 14' 5''.4$																			
Oct. 9	21	18.4	35	0	47.8	57.5	35	52.65	36	18.59	13	30.24	-1	40.81	-2.13	+62.87	+6.09	14	4.2
15	21	50.9	35	1	31.0	46.0	36	38.50	36	23.63	13	35.28	1	42.48	2.30	65.73	6.39		7.9
22	21	54.1	35	1	36.2	44.0	36	40.10	36	21.54	13	33.19	1	40.61	2.31	63.08	6.74		6.3
30	21	37.1	35	1	9.5	13.7	36	11.60	36	16.44	13	28.09	1	45.21	2.26	62.41	7.09		6.1
Nov. 2	21	59.9	35	1	40.1	43.8	36	41.95	36	17.92	13	29.57	1	44.25	2.29	62.34	7.23		6.5
5	21	51.6	35	1	30.3	31.0	36	30.65	36	17.17	13	28.82	1	46.58	2.16	62.73	7.36		7.5
9	21	46.6	35	1	27.4	26.9	36	27.15	36	18.88	13	30.53	1	45.66	2.16	63.04	7.53		7.8
41 CYGNI. $\delta_0 = + 29^\circ 56' 33''.5$																			
Sept. 30	25	21.4	25	1	29.7	25.3	26	27.50	26	56.27	55	52.08	-0	13.04	-0.90	+62.61	-7.09	56	33.7
Oct. 8	24	40.8	25	2	23.0	23.0	27	23.00	26	54.00	55	54.35	0	12.93	0.85	62.21	7.66		35.1
9	23	59.7	25	1	36.1	38.2	26	37.15	26	55.83	55	52.52	0	12.57	0.82	62.87	7.72		34.3
15	24	39.1	25	2	20.6	25.9	27	23.25	26	56.69	55	51.66	0	12.78	0.85	65.73	7.98		35.8
16	24	2.0	25	1	37.1	39.8	26	38.45	26	55.38	55	52.97	0	12.87	0.81	62.69	8.01		34.0
22	24	29.0	25	2	8.3	10.4	27	9.35	26	54.73	55	53.62	0	12.54	0.74	62.54	8.07		34.8
29	23	55.3	25	1	29.4	26.3	26	27.85	26	54.06	55	54.29	0	12.95	0.87	61.51	8.01		34.0
30	23	55.5	25	1	30.0	26.8	26	28.40	26	54.15	55	54.20	0	13.11	0.86	62.41	7.97		34.7
Nov. 5	24	0.3	25	1	38.7	30.4	26	34.55	26	54.97	55	53.38	0	13.28	0.71	62.73	7.71		34.4
9	23	57.4	25	1	38.1	30.2	26	34.15	26	56.65	55	51.70	0	13.17	0.71	63.04	7.50		33.4

Date. 1871.	Right Ascension Wires.											Seconds of Transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
ϵ DELPHINI.* $a_0 = 20^h 27^m 5^s.83$																
Sept. 30	29.4	31.4	33.5	37.7	39.7	41.8	43.9	46.0	50.2	52.4	54.5	41.86	-0.00	-37.11	+1.14	27 5.89
Oct. 8	59.0	0.9	3.1	7.2	9.4	11.5	13.6	15.7	19.7	22.0	24.1	11.47	-0.00	6.87	1.25	5.85
9	59.0	1.0	3.0	7.3	9.3	11.4	13.5	15.6	19.8	21.9	24.0	11.44	-0.01	6.82	1.26	5.87
15	59.4	1.5	3.6	7.8	9.9	12.0	14.1	16.2	20.3	22.5	24.6	11.99	-0.00	7.48	1.36	5.87
16	59.7	1.7	3.7	8.0	10.0	12.2	14.2	16.4	20.6	22.7	24.8	12.18	-0.00	7.71	1.38	5.85
22	59.7	1.7	3.7	7.9	10.2	12.2	14.3	16.4	20.5	22.6	24.7	12.17	+0.01	7.79	1.47	5.86
23	59.8	1.8	4.0	8.1	10.2	12.2	14.4	16.4	20.6	22.8	24.8	12.28	0.00	7.94	1.49	5.83
29	1.0	3.1	5.3	9.5	11.5	13.6	15.8	17.8	22.0	24.1	26.3	13.64	0.01	9.40	1.61	5.86
Nov. 2	1.1	3.2	5.3	9.5	11.6	13.7	15.7	17.8	22.0	24.1	26.2	13.65	0.02	9.51	1.66	5.82
5	1.2	3.3	5.3	9.4	11.5	13.7	15.7	17.8	22.0	24.0	26.2	13.64	0.02	9.59	1.71	5.78
ζ DELPHINI. $a_0 = 20^h 29^m 19^s.36$																
Oct. 8	12.4	14.5	16.7	20.9	23.0	25.2	27.2	29.3	33.6	35.7	37.9	25.13	-0.00	-6.87	+1.19	29 19.45
9	12.3	14.5	16.6	20.8	22.9	25.1	27.2	29.3	33.6	35.7	37.8	25.07	-0.01	6.82	1.21	19.45
15	12.9	15.0	17.0	21.4	23.4	25.5	27.7	29.7	34.0	36.2	38.3	25.55	+0.00	7.48	1.31	19.38
16	13.2	15.2	17.3	21.6	23.7	25.9	28.0	30.0	34.3	36.5	38.7	25.85	0.00	7.71	1.33	19.47
21	...	...	...	21.5	23.7	25.7	28.0	30.2	...	...	...	25.82	0.02	7.77	1.42	19.49
23	13.3	15.3	17.4	21.6	23.7	25.9	28.0	30.2	34.4	36.5	38.7	25.91	0.01	7.94	1.45	19.43
29	14.7	16.8	18.8	23.1	25.2	27.3	29.4	31.5	35.8	38.0	40.0	27.33	0.01	9.40	1.55	19.49
30	14.4	16.5	18.7	22.9	25.0	27.0	29.3	31.3	35.5	37.7	39.9	27.11	0.03	9.29	1.57	19.42
Nov. 2	14.6	16.7	18.8	23.0	25.1	27.3	29.4	31.5	35.7	37.8	40.0	27.26	0.03	9.51	1.62	19.40
β DELPHINI.* $a_0 = 20^h 31^m 32^s.75$																
Oct. 8	25.8	27.9	30.0	34.2	36.3	38.4	40.6	42.8	46.9	49.1	51.2	38.47	-0.00	-6.87	+1.19	31 32.79
9	25.8	28.0	30.0	34.2	36.2	38.4	40.5	42.7	46.9	49.1	51.2	38.45	-0.01	6.82	1.21	32.83
15	26.3	28.4	30.4	34.6	36.8	38.9	41.1	43.1	47.4	49.5	51.7	38.93	+0.00	7.48	1.29	32.74
21	26.5	28.6	30.6	35.0	37.0	39.2	41.3	43.4	47.7	49.8	52.0	39.19	0.02	7.77	1.41	32.85
22	26.4	28.6	30.8	34.9	37.1	39.1	41.3	43.4	47.6	49.8	51.9	39.17	0.02	7.79	1.42	32.82
23	26.5	28.7	30.8	35.0	37.1	39.3	41.4	43.5	47.8	49.8	52.0	39.26	0.01	7.95	1.44	32.76
29	28.0	30.1	32.2	36.4	38.5	40.6	42.7	44.9	49.1	51.3	53.4	40.65	0.01	9.40	1.55	32.81
30	27.7	29.8	32.0	36.2	38.3	40.5	42.6	44.8	49.0	51.0	53.2	40.46	0.03	9.29	1.56	32.76
Nov. 2	28.0	30.1	32.1	36.4	38.0	40.7	42.8	44.9	49.2	51.2	53.4	40.62	0.03	9.51	1.61	32.75
7	27.4	29.5	31.6	35.9	38.0	40.0	42.2	44.4	48.5	50.6	52.7	40.07	0.04	8.96	1.69	32.84
9	26.9	29.0	31.1	35.3	37.3	39.6	41.7	43.9	48.1	50.1	52.3	39.57	0.04	8.62	1.72	32.71
α DELPHINI.* $a_0 = 20^h 33^m 41^s.57$																
Oct. 8	34.6	36.6	38.7	42.9	45.2	47.3	49.4	51.6	55.8	58.0	0.1	47.29	-0.00	-6.87	+1.17	33 41.59
9	34.5	36.6	38.7	43.0	45.1	47.3	49.4	51.5	55.7	57.9	0.0	47.24	-0.01	6.82	1.19	41.60
15	35.0	37.1	39.2	43.5	45.6	47.8	49.9	52.0	56.5	58.5	0.5	47.78	+0.01	7.48	1.28	41.59
16	35.2	37.3	39.4	43.8	45.9	48.0	50.2	52.2	56.5	58.7	0.8	48.00	0.01	7.71	1.30	41.60
22	35.2	37.3	39.4	43.7	45.8	48.0	50.1	52.3	56.5	58.6	0.8	47.97	0.02	7.79	1.39	41.59
23	35.3	37.4	39.5	43.8	45.9	48.1	50.2	52.3	56.6	58.8	0.9	48.07	0.01	7.95	1.41	41.54
29	36.6	38.8	41.0	45.1	47.3	49.4	51.5	53.7	58.0	0.1	2.2	49.43	0.02	9.40	1.52	41.57
30	36.5	38.7	40.7	45.0	47.1	49.2	51.4	53.5	57.7	59.8	2.0	49.24	0.04	9.29	1.54	41.53
Nov. 2	36.7	38.8	40.9	45.1	47.3	49.4	51.6	53.6	58.0	0.2	2.3	49.44	0.04	9.51	1.58	41.55
7	36.0	38.2	40.3	44.6	46.7	48.9	51.0	53.2	57.3	59.5	1.6	48.84	0.05	8.96	1.66	41.59
9	35.6	37.7	40.0	44.2	46.3	48.4	50.6	52.6	57.0	59.1	1.2	48.43	0.04	8.62	1.69	41.54
α CYGNI.* $a_0 = 20^h 37^m 4^s.10$																
Sept. 27	52.1	55.1	57.9	3.8	6.7	9.5	12.6	15.5	21.3	24.2	27.0	9.61	+0.09	-5.88	+0.32	37 4.14
30	23.3	26.4	29.2	35.0	37.8	40.8	43.8	46.6	52.3	55.2	58.0	40.76	0.06	37.11	0.39	4.10
Oct. 9	...	...	...	4.4	7.4	10.3	13.0	16.1	...	...	...	10.24	0.00	6.82	0.60	4.02
15	53.4	56.4	59.2	5.0	7.9	10.9	13.6	16.6	22.3	25.3	28.2	10.80	0.06	7.48	0.76	4.14
16	53.6	56.5	59.4	5.2	8.0	10.9	13.8	16.9	22.6	25.5	28.4	10.98	0.06	7.71	0.78	4.11

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
ε DELPHINI.* δ ₀ = + 10° 52' 10".4												
Sept. 30	m. 27 22.8	s. 30 0	35.0	35.3	30 35.15	31 0.26	51 48.09	-0 36.24	-1.36	+62.61	-2.63	52 10.5
8	26 53.0	30 0	33.0	37.8	30 35.40	30 59.73	51 48.62	0 35.98	1.36	62.21	2.93	10.6
Oct. 9	26 52.4	30 0	33.0	39.0	30 36.00	31 0.98	51 47.37	0 34.95	1.36	62.87	2.93	11.0
15	27 3.6	30 0	48.4	58.8	30 53.60	31 4.65	51 43.70	0 35.52	1.38	65.73	2.93	9.6
16	26 51.8	30 0	29.8	35.0	30 32.40	30 59.22	51 49.13	0 35.77	1.36	62.69	2.93	11.8
22	26 49.9	30 0	28.4	35.0	30 31.70	31 1.02	51 47.33	0 34.87	1.35	62.54	2.83	10.8
23	26 56.8	30 0	39.6	46.8	30 43.20	31 3.58	51 44.77	0 34.35	1.37	63.49	2.83	9.7
29	26 53.9	30 0	32.0	34.0	30 33.00	30 58.90	51 49.45	0 36.02	1.34	61.51	2.73	10.9
Nov. 2	26 56.9	30 0	39.0	37.0	30 38.00	30 59.96	51 48.39	0 36.13	1.36	62.34	2.73	10.5
5	26 55.0	30 0	37.2	33.6	30 35.40	30 59.86	51 48.49	0 36.94	1.30	62.73	2.53	10.4
ζ DELPHINI. δ ₀ = + 14° 14' 2".4												
Oct. 8	29 6.2	5 3	44.2	50.3	8 47.25	9 11.78	13 36.57	-0 31.38	-1.82	+62.21	-3.78	14 1.8
9	29 3.3	5 3	41.2	48.0	8 44.60	9 12.89	13 35.46	0 30.50	1.79	62.87	3.79	2.2
15	29 9.9	5 3	49.4	60.3	8 54.85	9 15.22	13 33.13	0 31.00	1.77	65.73	3.84	2.2
16	29 10.7	5 3	49.7	55.9	8 52.80	9 12.39	13 35.96	0 31.22	1.77	62.69	3.83	1.8
21	29 38.5	5 4	27.5	27.8	9 27.65	9 11.17	13 37.18	0 31.23	1.85	61.50	3.79	1.8
23	29 5.2	5 3	45.0	47.0	8 46.00	9 12.86	13 35.49	0 29.97	1.82	63.49	3.76	3.4
29	29 7.0	5 3	43.9	45.0	8 44.45	9 10.79	13 37.56	0 31.44	1.81	61.51	3.62	2.2
30	29 5.9	5 3	43.3	45.3	8 44.30	9 11.81	13 36.54	0 31.81	1.82	62.41	3.59	1.7
Nov. 2	27 7.8	5 3	46.2	46.1	8 46.15	9 11.45	13 36.90	0 31.54	1.81	62.34	3.51	2.4
β DELPHINI.* δ ₀ = + 14° 9' 4".2												
Oct. 8	31 16.0	10 3	39.4	43.9	13 41.65	14 10.86	8 37.49	-0 31.49	-1.82	+62.21	-3.63	9 2.8
9	31 14.7	10 3	37.2	44.1	13 40.65	14 11.42	8 36.93	0 30.61	1.78	62.87	3.73	3.7
15	31 22.7	10 3	48.0	57.2	13 52.60	14 13.63	8 34.72	0 31.11	1.77	65.73	3.83	3.7
21	31 21.0	10 3	44.7	44.9	13 44.80	14 8.42	8 39.93	0 31.34	1.76	61.50	3.73	4.6
22	31 21.4	10 3	45.8	52.0	13 48.90	14 12.01	8 36.34	0 30.54	1.81	62.54	3.73	2.8
23	31 18.6	10 3	42.7	49.8	13 46.25	14 13.12	8 35.23	0 30.08	1.83	63.49	3.73	3.1
29	31 20.9	10 3	41.8	43.6	13 42.70	14 8.27	8 40.08	0 31.54	1.80	61.51	3.53	4.7
30	31 19.0	10 3	42.1	42.1	13 42.10	14 10.01	8 38.34	0 31.92	1.82	62.41	3.43	3.6
Nov. 2	31 22.0	10 3	45.1	45.4	13 45.25	14 9.52	8 38.83	0 31.65	1.47	62.34	3.33	4.7
7	31 19.8	10 3	48.2	43.2	13 45.70	14 11.93	8 36.42	0 31.82	1.47	63.21	3.03	3.3
9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
α DELPHINI.* δ ₀ = + 15° 27' 42".8												
Oct. 8	33 24.9	55 0	2.4	6.2	55 4.30	55 33.20	27 15.15	-0 29.80	-1.16	+62.21	-3.83	27 42.6
9	33 22.3	50 4	59.3	5.9	55 2.60	55 34.73	27 13.62	0 28.97	1.15	62.87	3.93	42.4
15	33 26.1	55 0	4.3	13.8	55 9.05	55 37.05	27 11.30	0 29.45	1.16	65.73	4.13	42.3
16	33 28.7	55 0	5.4	11.9	55 8.65	55 33.55	27 14.80	0 29.64	1.14	62.69	4.13	42.6
22	33 28.6	55 0	9.2	14.2	55 11.70	55 36.73	27 11.62	0 28.89	1.15	62.54	4.03	40.1
23	33 30.3	55 0	10.4	16.3	55 13.35	55 36.32	27 12.03	0 28.46	1.13	63.49	4.03	41.9
29	33 28.7	55 0	4.1	6.2	55 5.15	55 31.99	27 16.36	0 29.85	1.13	61.51	3.83	43.1
30	33 24.1	55 0	0.7	0.2	55 0.45	55 32.84	27 15.51	0 30.20	1.15	62.41	3.73	42.8
Nov. 2	33 26.3	55 0	3.3	1.3	55 2.30	55 32.11	27 16.24	0 29.95	1.14	62.34	3.73	43.8
7	33 31.2	55 0	15.2	11.1	55 13.15	55 35.86	27 12.49	0 30.11	1.11	63.21	3.33	41.2
9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
α CYGNI.* δ ₀ = + 44° 49' 25".9												
Sept. 27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
30	37 11.2	30 3	54.6	50.0	33 52.30	34 20.41	48 27.94	+0 2.54	-0.83	+62.61	-8.41	49 23.9
Oct. 9	37 22.9	30 4	28.9	30.2	34 29.55	34 17.49	48 30.86	0 2.44	0.67	62.87	9.41	26.1
15	36 41.3	30 3	49.7	53.2	33 51.45	34 19.47	48 28.88	0 2.48	0.78	65.73	9.91	26.4
16	36 43.4	30 3	51.7	52.7	33 52.20	34 18.41	48 29.94	0 2.50	0.75	62.69	10.11	24.3

Date. 1871.		Right Ascension Wires.										Seconds of transit over Mean Wire.	n tang. δ + κ.	ΔT + m.	Red. to 1872.0.	Mean Right Ascension for 1872.0.			
		1	2	3	4	5	6	7	8	9	10							11	
		α CYGNI.*										α ₀ = 20 ^h 37 ^m 4 ^s .10							
Oct.	23	53.6	56.6	59.5	5.2	8.1	11.0	13.9	16.8	22.6	25.5	28.5	11.02	+0.08	—	7.95	+0.97	37	4.12
	29	54.9	57.7	0.6	6.4	9.2	12.2	15.1	18.1	23.8	26.7	29.7	12.21	0.10		9.40	1.14		4.05
	30	54.7	57.6	0.4	6.3	9.1	12.0	14.9	17.8	23.7	26.6	29.4	12.04	0.18		9.29	1.16		4.09
Nov.	2	55.0	57.8	0.6	6.4	9.3	12.3	15.1	18.0	24.0	26.8	29.7	12.27	0.17		9.51	1.24		4.17
	7	54.1	57.0	59.9	5.7	8.5	11.5	14.3	17.3	23.0	26.0	28.8	11.46	0.22		8.96	1.37		4.09
	9	53.7	56.6	59.4	5.1	8.1	11.0	14.0	16.9	22.7	25.6	28.6	11.06	0.19		8.62	1.42		4.05
		ε CYGNI.*										α ₀ = 20 ^h 41 ^m 1 ^s .96							
Sept.	27	52.4	54.9	57.2	2.1	4.7	7.0	9.5	12.1	17.1	19.5	22.0	7.14	+0.05	—	5.88	+0.63	41	1.94
Oct.	5	52.8	55.3	57.6	2.6	5.0	7.5	10.0	12.5	17.4	20.0	22.3	7.54	0.01		6.45	0.78		1.88
	9	...	...	...	3.0	5.4	7.9	10.4	12.9	...	...	...	7.92	0.00		6.93	0.87		1.86
	16	53.8	56.3	58.7	3.6	6.2	8.5	11.0	13.5	18.6	20.9	23.4	8.59	0.03		7.71	1.01		1.92
	21	53.7	56.3	58.7	3.5	5.8	8.4	11.1	13.6	18.4	21.0	23.4	8.44	0.07		7.77	1.12		1.86
	29	55.1	57.6	0.0	5.0	7.5	9.9	12.5	14.8	19.9	22.3	24.9	9.95	0.06		9.40	1.29		1.90
	30	55.0	57.5	59.9	4.8	7.4	9.8	12.3	14.8	19.6	22.2	24.6	9.80	0.11		9.29	1.31		1.93
Nov.	2	55.3	57.5	0.0	5.0	7.6	10.0	12.5	14.9	19.9	22.3	24.8	9.98	0.11		9.51	1.36		1.94
	7	54.5	57.0	59.5	4.4	6.8	9.3	11.8	14.3	19.1	21.6	24.0	9.30	0.14		8.96	1.47		1.95
		η CEPHEI.*										α ₀ = 20 ^h 42 ^m 40 ^s .99							
Oct.	5	21.9	26.2	30.4	39.0	43.3	47.6	51.9	56.3	4.7	9.0	13.3	47.60	+0.06	—	6.45	—0.38	42	40.83
	9	22.0	26.5	30.8	39.5	43.5	48.0	52.1	56.7	4.9	9.5	13.8	47.94	0.01		6.93	—0.20		40.82
	16	23.5	27.8	31.2	40.0	44.0	48.5	52.8	57.3	5.6	9.9	14.3	48.63	0.11		7.71	+0.09		41.12
	23	22.7	27.0	31.2	39.8	44.0	48.3	52.9	57.0	5.6	9.8	14.2	48.41	0.15		7.95	+0.39		41.00
	30	23.3	27.9	32.1	40.5	44.7	49.4	53.4	57.8	6.1	10.6	14.7	49.14	0.33		9.29	+0.70		40.88
Nov.	2	...	...	...	40.7	45.0	49.3	53.6	58.0	...	...	...	49.32	0.32		9.51	+0.83		40.96
	7	22.7	27.0	31.3	40.1	44.3	48.4	52.7	57.1	5.7	10.0	14.3	48.51	0.41		8.96	+1.05		41.01
	9	22.3	26.6	30.8	39.4	43.7	47.9	52.0	56.5	5.0	9.3	13.6	47.92	0.36		8.62	+1.14		40.80
		μ AQUARI.										α ₀ = 20 ^h 45 ^m 44 ^s .83							
Sept.	28	37.4	39.4	41.5	45.7	47.8	49.8	51.9	54.1	58.4	0.4	2.5	49.90	—0.03	—	6.07	+1.21	45	45.01
Oct.	9	38.0	40.2	42.2	46.4	48.5	50.6	52.6	54.7	58.8	61.0	63.0	50.54	0.02		6.93	1.37		44.96
	21	38.7	40.8	42.9	47.0	49.1	51.3	53.3	55.4	59.6	61.5	63.7	51.21	0.04		7.77	1.55		44.95
	23	38.9	40.9	43.0	47.2	49.3	51.3	53.4	55.5	59.7	61.7	63.7	51.33	0.03		7.95	1.58		44.93
	29	40.2	42.3	44.3	48.6	50.6	52.8	54.8	56.9	61.1	63.2	65.2	52.73	0.04		9.40	1.67		44.96
	30	40.1	42.2	44.3	48.4	50.5	52.6	54.7	56.8	61.0	63.1	65.1	52.62	0.05		9.29	1.69		44.97
Nov.	2	40.3	42.3	44.5	48.7	50.7	52.8	54.8	56.9	61.0	63.0	65.2	52.74	0.05		9.51	1.73		44.91
	7	39.8	41.8	43.8	48.0	50.1	52.1	54.3	56.3	60.6	62.6	64.8	52.20	0.06		8.96	1.83		45.01
	9	39.4	41.4	43.6	47.7	49.8	51.8	54.0	56.1	60.0	62.4	64.4	51.87	0.05		8.62	1.83		45.03
		32 VULPECULÆ.*										α ₀ = 20 ^h 49 ^m 6 ^s .30							
Sept.	27	57.7	59.8	2.4	6.9	9.1	11.5	13.8	16.0	20.8	23.0	25.4	11.49	+0.04	—	5.88	+0.72	49	6.37
	28	57.8	0.0	2.4	6.9	9.3	11.7	14.0	16.3	20.9	23.2	25.5	11.64	0.03		6.07	0.74		6.34
	30	28.8	31.0	33.3	38.0	40.2	42.6	45.1	47.3	52.0	54.3	56.6	42.65	0.03		37.11	0.77		6.34
Oct.	5	58.0	0.3	2.7	7.2	9.5	11.8	14.1	16.6	21.1	23.5	25.8	11.87	0.01		6.45	0.86		6.29
	9	58.4	0.8	3.0	7.5	10.0	12.3	14.6	17.0	21.5	24.0	26.2	12.30	0.00		6.93	0.93		6.30
	21	58.9	1.3	3.5	8.3	10.5	12.9	15.1	17.5	22.1	24.4	26.8	12.84	0.05		7.77	1.16		6.28
	22	58.9	1.3	3.6	8.3	10.6	12.8	15.2	17.4	22.0	24.5	26.7	12.84	0.06		7.79	1.18		6.29
	23	59.1	1.3	3.7	8.4	10.7	13.0	15.2	17.7	22.3	24.6	27.0	13.00	0.04		7.95	1.20		6.29
	29	0.5	2.7	5.0	9.8	12.1	14.3	16.6	19.0	23.6	26.0	28.3	14.35	0.04		9.40	1.31		6.30
	30	...	...	...	9.4	11.8	14.1	16.5	18.8	...	...	...	14.12	0.09		9.29	1.33		6.25
Nov.	2	0.4	2.8	5.1	9.8	12.0	14.4	16.7	19.0	23.6	26.0	28.4	14.38	0.08		9.51	1.38		6.33

Date. 1871.		Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
				E.	G.								
α CYGNI.* δ ₀ = + 44° 49' 25".9													
Oct.	23	36 49.1	30 3	56.4	58.4	33 57.40	34 18.20	48 30.15	+0 2.39	-0.72	+63.49	-10.51	49 24.8
	29	36 40.9	30 3	49.1	45.0	33 47.05	34 16.78	48 31.57	0 2.51	0.83	61.51	10.41	24.3
	30	36 49.6	30 3	58.1	52.2	33 55.15	34 16.42	48 31.93	0 2.54	0.72	62.41	10.41	25.6
Nov.	2	37 35.3	30 4	42.2	36.7	34 39.45	34 17.61	48 30.74	0 2.52	0.85	62.34	10.41	24.3
	7	36 46.4	30 4	1.2	50.0	33 55.60	34 19.44	48 28.91	0 2.54	0.40	63.21	10.31	24.0
	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
ε CYGNI.* δ ₀ = + 33° 29' 30".9													
Sept.	27	40 42.1	50 4	7.7	34.8	53 51.25	54 19.05	28 29.30	-0 8.96	-1.02	+76.78	-6.32	29 29.8
Oct.	5	40 40.1	50 3	31.2	35.8	53 33.50	54 4.09	28 44.26	0 8.86	1.14	62.62	7.12	29.8
	9	40 59.0	50 3	52.1	53.7	53 52.90	54 2.84	28 45.51	0 8.93	1.02	61.59	7.52	29.6
	16	40 44.2	50 3	33.1	37.7	53 35.40	54 2.64	28 45.71	0 9.13	1.09	62.69	7.82	30.4
	21	40 46.5	50 3	19.9	26.5	53 38.20	54 2.65	28 45.70	0 9.14	1.05	61.50	8.12	28.9
	29	40 41.5	50 3	30.2	28.8	53 29.50	54 1.20	28 47.15	0 9.19	1.15	61.51	8.12	30.2
	30	40 44.7	50 3	35.1	32.6	53 33.85	54 1.88	28 46.47	0 9.30	1.12	62.41	8.12	30.3
Nov.	2	40 53.2	50 3	45.6	42.8	53 44.20	54 2.96	28 45.39	0 9.23	1.06	62.34	8.12	29.3
	7	40 48.1	50 3	45.1	35.6	53 40.35	54 4.02	28 44.33	0 9.28	0.77	63.21	7.92	29.6
η CEPHEI.* δ ₀ = + 61° 20' 31".4													
Oct.	5	42 33.6	0 3	20.8	20.0	3 20.40	3 29.40	19 18.95	+0 19.47	+0.14	+62.62	-9.61	20 31.6
	9	42 36.9	0 3	22.4	19.0	3 20.70	3 27.77	19 20.58	0 19.62	0.20	61.59	10.21	31.8
	16	42 25.3	0 3	14.2	13.9	3 14.05	3 29.02	19 19.33	0 20.07	0.12	62.69	11.01	31.2
	23	42 36.2	0 3	20.5	19.5	3 20.00	3 27.84	19 20.51	0 19.27	0.16	63.49	11.71	31.7
	30	43 6.7	0 3	42.2	35.4	3 38.80	3 27.49	19 20.86	0 20.44	0.06	62.41	12.01	31.8
Nov.	2	43 9.1	0 3	45.3	36.9	3 41.10	3 28.38	19 19.97	0 20.28	0.04	62.34	12.11	30.5
	7	43 23.4	0 4	0.2	44.3	3 52.25	3 29.82	19 18.53	0 20.38	0.17	63.21	12.11	30.2
	9	41 59.6	0 3	5.2	52.8	2 59.00	3 30.03	19 18.32	0 20.54	0.03	63.04	12.01	29.9
μ AQUARI.* δ ₀ = - 9° 27' 43".9													
Sept.	28	45 37.9	50 0	36.7	7.5	50 22.10	50 37.94	27 49.59	-1 13.49	-1.89	+79.32	+3.57	27 42.1
Oct.	9	45 29.3	45 4	51.7	59.7	49 55.70	50 23.69	27 35.34	1 12.55	2.60	61.59	3.97	44.9
	21	45 26.3	45 4	46.9	50.1	49 48.50	50 21.38	27 33.03	1 14.25	2.57	61.50	4.47	43.9
	23	45 36.8	50 0	3.7	13.3	50 8.50	50 27.65	27 39.30	1 11.22	1.84	63.49	4.57	44.3
	29	45 33.0	45 4	51.2	56.9	49 54.05	50 20.06	27 31.71	1 14.71	2.65	61.51	4.77	42.8
	30	45 39.2	50 0	3.2	5.0	50 4.10	50 21.79	27 33.44	1 15.55	1.87	62.41	4.77	43.7
Nov.	2	45 31.5	45 4	54.0	56.1	49 55.05	50 23.04	27 34.69	1 14.97	2.65	62.34	4.97	45.0
	7	45 35.3	50 0	3.6	0.3	50 1.95	50 24.27	27 35.92	1 15.36	1.83	63.21	5.27	44.6
	9	45 34.2	50 0	1.2	0.2	50 0.70	50 24.07	27 35.72	1 15.90	1.83	63.04	5.36	45.0
32 VULPECULÆ.* δ ₀ = + 27° 34' 18".6													
Sept.	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	30	49 26.9	45 3	52.9	50.1	48 51.50	49 10.13	33 38.22	-0 15.64	-1.31	+62.61	-5.21	34 18.7
Oct.	5	48 49.6	45 3	43.4	46.5	48 44.95	49 11.42	33 36.93	0 14.98	1.35	62.62	5.61	17.6
	9	48 46.7	45 3	38.1	38.8	48 38.45	49 8.83	33 39.52	0 15.10	1.33	61.59	5.91	18.8
	21	48 48.0	45 3	40.8	37.0	48 38.90	49 8.33	33 40.02	0 15.45	1.32	61.50	6.51	18.2
	22	48 52.1	45 3	43.2	45.0	48 44.10	49 8.67	33 39.68	0 15.04	1.34	62.54	6.51	19.3
	23	48 52.0	45 3	45.0	48.2	48 46.60	49 11.53	33 36.82	0 14.82	1.34	63.49	6.51	17.6
	29	48 52.2	45 3	44.1	44.4	48 44.25	49 10.60	33 37.75	0 15.55	1.35	61.51	6.61	15.7
	30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nov.	2	48 54.0	45 3	47.2	41.8	48 44.50	49 8.71	33 39.64	0 15.60	1.33	62.34	6.51	18.5

Date. 1871.	Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
ν CYGNI.* $a_0 = 20^h 52^m 24^s.12$																
Sept. 23	s.	s.	s.	s. 41.9	s. 44.6	s. 47.4	s. 50.1	s. 52.8	s.	s.	s.	s. 47.36	s. +0.01	s. -23.57	s. +0.31	m. 52 s. 24.11
30	44.5	47.1	49.9	55.3	58.1	0.5	3.4	6.0	11.6	14.1	17.0	0.68	0.05	37.11	0.44	24.06
Oct. 5	13.7	16.4	19.1	24.5	27.3	30.0	32.7	35.4	40.8	43.5	46.2	29.96	0.02	6.45	0.55	24.08
9	14.1	16.8	19.5	24.9	27.6	30.4	33.1	35.8	41.2	43.9	46.6	30.35	0.00	6.93	0.64	24.06
21	14.7	17.3	20.0	25.5	28.1	30.9	33.5	36.4	41.7	44.4	47.1	30.87	0.09	7.77	0.91	24.10
22	14.6	17.2	20.0	25.4	28.2	30.9	33.5	36.4	41.7	44.4	47.2	30.86	0.11	7.79	0.94	24.12
23	14.9	17.5	20.3	25.6	28.4	31.1	33.8	36.4	41.7	44.6	47.3	31.05	0.07	7.95	0.96	24.13
29	16.0	18.8	21.4	26.8	29.4	32.2	35.0	37.8	43.1	45.9	48.7	32.28	0.08	9.40	1.10	24.06
Nov. 2	16.0	18.7	21.4	27.0	29.6	32.2	35.0	38.0	43.1	45.8	48.7	32.32	0.14	9.51	1.19	24.14
5	16.0	18.7	21.4	26.8	29.6	32.2	34.9	37.7	43.1	45.7	48.6	32.25	0.15	9.58	1.26	24.08
Pr. XX. 429. $a_0 = 20^h 54^m 24^s.02$																
Sept. 23	28.5	31.8	34.9	41.2	44.6	47.7	51.0	54.1	0.5	3.7	6.9	47.72	+0.02	-23.57	-0.07	54 24.10
27	10.7	13.8	17.0	23.5	26.7	29.9	33.1	36.3	42.7	45.8	49.0	29.86	0.11	5.88	+0.02	24.11
Oct. 8	11.4	14.7	17.9	24.3	27.5	30.6	33.8	37.0	43.4	46.7	49.8	30.64	0.05	6.97	+0.31	24.03
9	11.5	14.6	17.8	24.2	27.5	30.6	33.8	37.0	43.3	46.6	49.7	30.60	0.01	6.93	-0.34	24.02
21	11.9	15.0	18.3	24.5	27.7	30.9	34.2	37.4	43.8	46.9	50.1	30.97	0.13	7.77	-0.69	24.02
23	12.1	15.3	18.5	25.0	28.1	31.2	34.4	37.5	44.0	47.3	50.5	31.26	0.09	7.95	-0.75	24.15
Nov. 2	13.2	16.4	19.6	26.1	29.3	32.4	35.6	39.0	45.2	48.4	51.7	32.44	0.20	9.51	-1.05	24.18
5	13.1	16.4	19.5	25.7	29.1	32.3	35.7	38.6	45.1	48.2	51.4	32.28	0.21	9.58	-1.14	24.05
7	12.4	15.5	18.8	25.2	28.3	31.5	34.6	37.9	44.4	47.5	50.8	31.54	0.26	8.96	-1.20	24.04
9	12.2	15.3	18.4	24.8	28.1	31.1	34.4	37.7	44.1	47.4	50.4	31.26	0.23	8.62	-1.27	24.14
η CAPRICORNI. $a_0 = 20^h 57^m 7^s.03$																
Sept. 23	16.4	18.7	21.0	25.3	27.5	29.7	31.9	34.0	38.4	40.6	42.9	29.67	-0.03	-23.57	+1.17	57 7.24
30	30.0	32.0	34.0	38.6	40.8	43.0	45.2	47.4	51.7	54.0	56.2	42.99	0.05	37.11	1.26	7.09
Oct. 8	59.6	1.8	3.9	8.5	10.7	12.8	15.0	17.1	21.7	23.8	26.0	12.81	0.04	6.97	1.37	7.17
23	0.3	2.5	4.8	9.1	11.3	13.6	15.7	17.9	22.3	24.5	26.7	13.52	0.05	7.95	1.60	7.12
29	1.7	3.8	6.1	10.5	12.7	14.9	17.0	19.1	23.5	25.7	28.0	14.82	0.06	9.40	1.69	7.05
Nov. 2	1.8	4.0	6.2	10.6	12.7	15.0	17.1	19.4	23.7	26.0	28.2	14.97	0.09	9.51	1.76	7.13
7	1.2	3.5	5.6	10.0	12.2	14.3	16.5	18.7	23.1	25.1	27.4	14.33	0.11	8.96	1.84	7.10
9	... ..	... ..	... ..	9.6	12.0	14.1	16.1	18.4	... ..	... ..	... ..	14.04	0.09	8.62	1.86	7.19
σ^2 URSÆ MAJORIS L. C.* $a_0 = 8^h 59^m 5^s.80$																
Oct. 2	38.0	43.3	48.7	59.6	5.0	10.4	15.8	21.1	31.8	37.4	42.7	10.34	-0.29	-7.77	+3.70	59 5.98
22	... ..	... ..	... ..	59.5	5.1	10.4	15.8	21.1	... ..	... ..	... ..	10.18	0.32	7.79	3.63	5.70
Nov. 5	40.7	46.1	51.6	2.3	8.0	13.3	18.6	24.1	34.9	40.2	45.5	13.21	0.45	9.58	2.62	5.80
13	39.4	44.7	50.1	1.1	6.4	12.0	17.3	22.7	32.5	38.7	44.1	11.73	0.50	7.42	2.02	5.83
61 CYGNI pr.* $a_0 = 21^h 1^m 9^s.60$																
Sept. 23	17.1	19.8	22.4	27.7	30.2	32.9	35.3	38.0	43.3	46.0	48.6	32.84	+0.01	-23.57	+0.47	1 9.75
30	30.5	33.2	35.6	41.0	43.4	46.0	48.8	51.4	56.6	59.3	1.9	46.15	0.04	37.11	0.59	9.67
Oct. 5	59.7	2.3	4.9	10.1	12.8	15.4	18.0	20.6	25.8	28.4	31.0	15.36	0.02	6.45	0.68	9.61
8	0.2	2.7	5.3	10.7	13.1	15.8	18.5	21.0	26.4	29.0	31.5	15.84	0.03	6.97	0.73	9.63
21	... ..	... ..	... ..	11.1	13.6	16.3	18.9	21.6	... ..	... ..	... ..	16.30	0.08	7.77	0.99	9.60
29	2.2	4.7	7.3	12.6	15.2	17.8	20.4	23.0	28.3	30.8	33.5	17.80	0.07	9.40	1.17	9.64
Nov. 2	2.1	4.7	7.3	12.5	15.0	17.8	20.4	23.0	28.1	30.8	33.4	17.74	0.13	9.51	1.26	9.62
7	1.5	4.0	6.6	11.7	14.4	17.0	19.6	22.3	27.5	30.1	32.7	17.04	0.17	8.96	1.37	9.62
9	1.0	3.5	6.3	11.4	14.0	16.6	19.2	22.0	27.1	29.8	32.6	16.68	0.15	8.62	1.41	9.62
13	59.7	2.3	4.9	10.1	12.7	15.3	17.9	20.7	25.8	28.4	31.0	15.35	0.15	7.42	1.50	9.58

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean Reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.							
			E.	G.															
ν CYGNI.* $\delta_0 = + 40^\circ 40' 31''.0$																			
Sept. 23	m. 53	s. 3.2	40	4	1.7	34.0	43	47.85	43	31.80	39	16.55	-0	1.68	-0.63	+78.21	-5.70	40	26.7
30	52	33.8	40	2	45.2	42.0	42	43.60	43	10.92	39	37.43	0	1.76	0.73	62.61	6.90		30.6
Oct. 5	52	2.9	40	2	42.7	45.3	42	44.00	43	11.62	39	36.73	0	1.68	0.73	62.62	7.50		29.4
9	51	58.5	40	2	35.8	37.6	42	36.70	43	9.09	39	39.26	0	1.70	0.76	61.59	8.10		30.3
21	52	1.9	40	2	41.7	37.5	42	39.60	43	9.05	39	39.30	0	1.74	0.73	61.50	8.90		29.4
22	52	38.5	40	3	16.8	18.0	43	17.40	43	9.68	39	38.67	0	1.69	0.66	62.54	9.00		29.9
23	52	21.1	40	2	58.3	62.6	43	0.45	43	10.50	39	37.85	0	1.67	0.61	63.49	9.00		30.1
29	52	8.2	40	2	45.2	43.6	42	44.40	43	8.87	39	39.48	0	1.75	0.68	61.51	9.20		29.4
Nov. 2	52	12.6	40	2	50.8	46.2	42	48.50	43	8.40	39	39.95	0	1.75	0.66	62.34	9.30		30.6
5	52	7.3	40	2	48.3	41.0	42	44.65	43	9.94	39	38.41	0	1.80	0.46	62.73	9.20		29.7
Pi. XX. 429. $\delta_0 = + 49^\circ 57' 55''.8$																			
Sept. 23	54	21.4	25	1	8.0	30.5	25	49.25	26	11.91	56	36.44	+0	7.54	+0.03	+78.21	-6.27	57	55.9
27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Oct. 8	53	59.9	25	0	26.8	23.1	25	24.95	25	51.39	56	56.96	0	7.82	0.00	62.21	8.84		58.1
9	53	59.4	25	0	26.4	24.3	25	25.35	25	52.23	56	56.12	0	7.61	0.01	61.59	8.97		56.4
21	54	1.4	25	0	28.4	22.2	25	25.30	25	50.71	56	57.64	0	7.79	0.02	61.50	10.22		56.7
23	54	23.3	25	0	44.6	44.7	25	44.65	25	51.54	56	56.81	0	7.49	0.17	63.49	10.36		57.6
Nov. 2	54	57.5	25	1	17.0	9.0	26	13.00	25	51.38	56	56.97	0	7.87	0.06	62.34	10.73		56.4
5	54	0.3	25	1	30.5	19.4	25	24.95	25	52.43	56	55.92	0	8.04	0.01	62.73	10.76		55.9
7	54	1.3	25	0	33.2	19.1	25	26.15	25	52.17	56	56.18	0	7.91	0.04	63.21	10.78		56.6
9	54	3.1	25	0	33.3	21.8	25	27.55	25	51.84	56	56.51	0	7.96	0.07	63.04	10.79		56.8
η CAPRICORNI. $\delta_0 = - 20^\circ 21' 34''.6$																			
Sept. 23	57	11.2	40	3	48.2	15.5	43	33.35	43	56.57	21	8.22	-1	49.36	-2.50	+78.21	+6.64	21	35.2
30	57	25.1	40	3	10.3	18.2	43	12.75	43	35.22	20	46.87	1	54.33	2.58	62.61	7.08		34.1
Oct. 8	56	47.6	40	3	0.3	10.2	43	5.25	43	36.88	20	48.53	1	53.40	2.52	62.21	7.64		34.6
23	56	57.5	40	3	17.9	28.9	43	23.40	43	43.47	20	55.12	1	48.31	2.64	63.49	8.60		34.0
29	56	53.5	40	3	5.2	11.2	43	8.20	43	34.93	20	46.58	1	53.65	2.55	61.51	8.96		32.3
Nov. 2	56	58.4	40	3	14.0	17.5	43	15.75	43	36.58	20	48.23	1	54.05	2.60	62.38	9.18		33.4
7	56	53.7	40	3	14.3	11.8	43	13.05	43	38.91	20	50.56	1	54.61	2.28	63.21	9.45		34.8
9	56	58.6	40	3	19.8	20.2	43	20.00	43	39.33	20	50.98	1	55.43	2.32	63.04	9.55		36.1
σ^2 URSÆ MAJORIS L. C.* $\delta_0 = + 112^\circ 20' 54''.9$																			
Oct. 21	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22	59	43.7	5	0	13.3	9.3	5	11.30	5	28.39	17	19.96	+2	34.50	+2.41	62.54	-5.80	20	53.6
Nov. 5	58	32.1	5	1	3.8	47.0	5	55.40	5	34.49	17	13.86	2	44.05	2.48	62.73	8.00		55.1
13	58	30.8	5	1	6.0	49.6	5	57.80	5	36.99	17	11.36	2	44.75	2.49	63.10	8.70		53.0
61 CYGNI pr.* $\delta_0 = + 38^\circ 7' 15''.8$																			
Sept. 23	1	7.8	15	1	32.6	0.5	16	16.55	16	42.88	6	5.47	-0	4.23	-0.51	+78.21	-4.03	7	14.9
30	1	18.9	15	0	58.4	54.0	15	56.20	16	24.85	6	23.50	0	4.42	0.59	62.61	5.23		15.9
Oct. 5	0	50.4	15	0	57.2	60.0	15	58.60	16	24.93	6	23.42	0	4.23	0.51	62.62	6.03		15.3
8	0	50.9	15	0	55.3	56.8	15	56.05	16	22.27	6	26.08	0	4.38	0.51	60.31	6.13		15.4
21	1	28.4	15	1	37.0	33.0	16	35.00	16	22.25	6	26.10	0	4.36	0.47	61.50	7.53		15.2
29	0	50.7	15	0	54.5	51.4	15	52.95	16	21.49	6	26.86	0	4.39	0.52	61.51	7.73		15.7
Nov. 2	0	55.5	15	1	0.4	55.8	15	58.10	16	21.48	6	26.87	0	4.41	0.47	62.34	7.73		16.6
7	0	53.1	15	1	3.0	56.4	15	59.70	16	24.87	6	23.48	0	4.43	0.40	63.21	7.83		14.0
9	0	49.2	15	0	59.0	51.0	15	55.00	16	23.96	6	24.39	0	4.46	0.44	63.04	7.83		14.7
13	1	34.7	15	1	46.3	39.0	16	42.65	16	22.32	6	26.03	0	4.53	0.33	63.10	7.83		16.4

Date. 1871.	Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
γ EQUULEL. $a_0 = 21^h 4^m 7^s.03$																
Sept. 27	59.5	1.5	3.5	7.8	10.0	12.0	13.9	16.0	20.2	22.3	24.5	11.93	+0.00	— 5.88	+0.94	m. 4 s. 6.99
30	30.7	32.8	34.7	39.1	41.0	43.3	45.3	47.4	51.5	53.6	55.8	43.20	—0.00	37.11	0.98	7.07
Oct. 8	0.4	2.5	4.6	8.8	10.9	12.9	14.9	17.0	21.2	23.2	25.3	12.88	—0.00	6.97	1.09	7.00
9	0.3	2.4	4.6	8.7	10.9	12.9	14.9	17.0	21.2	23.2	25.4	12.86	—0.01	6.93	1.10	7.02
21	1.0	3.1	5.1	9.3	11.4	13.5	15.6	17.7	21.8	24.0	26.0	13.50	+0.01	7.77	1.29	7.03
23	1.2	3.3	5.3	9.5	11.6	13.6	15.7	17.8	22.0	24.0	26.1	13.64	+0.00	7.95	1.32	7.01
29	2.5	4.6	6.7	10.8	12.9	15.0	17.0	19.3	23.3	25.4	27.5	15.00	+0.00	9.40	1.41	7.01
Nov. 2	2.6	4.6	6.7	10.9	12.9	15.0	17.0	19.2	23.4	25.5	27.4	15.02	+0.02	9.51	1.47	7.00
13	0.3	2.4	4.6	8.7	10.7	12.6	14.8	16.9	21.1	23.1	25.2	12.76	+0.02	7.42	1.65	7.01
ζ CYGNI.* $a_0 = 21^h 7^m 29^s.41$																
Sept. 23	38.3	40.7	43.0	46.7	50.1	52.4	54.9	57.2	1.9	4.3	6.7	52.38	+0.00	—23.57	+0.57	7 29.38
27	20.4	22.8	25.0	29.0	32.3	34.6	36.9	39.2	44.0	46.4	48.8	34.49	0.04	5.88	0.62	29.27
30	51.6	53.8	56.1	1.0	3.4	5.8	8.0	10.4	15.2	17.5	19.9	5.70	0.03	37.11	0.67	29.29
Oct. 4	20.8	23.0	25.6	30.3	32.6	35.0	37.3	39.8	44.5	46.9	49.2	35.00	0.02	6.35	0.74	29.41
8	21.3	23.6	26.0	30.8	33.0	35.4	37.8	40.1	45.0	47.3	49.6	35.44	0.02	6.97	0.80	29.29
9	21.1	23.6	26.0	30.7	33.1	35.4	37.8	40.2	45.0	47.3	49.7	35.44	0.00	6.93	0.82	29.33
21	21.9	24.1	26.6	31.3	33.6	36.0	38.3	40.7	45.5	47.8	50.2	36.00	0.06	7.77	1.04	29.33
22	22.0	24.2	26.6	31.3	33.7	36.0	38.4	40.8	45.4	47.9	50.2	36.04	0.06	7.79	1.05	29.36
23	22.0	24.4	26.7	31.5	33.9	36.3	38.6	41.0	45.7	48.0	50.4	36.23	0.04	7.95	1.09	29.41
29	23.2	25.6	28.0	32.8	35.1	37.5	39.8	42.3	46.9	49.2	51.7	37.46	0.05	9.40	1.19	29.30
Nov. 7	22.7	25.0	27.3	32.0	34.5	36.8	39.1	41.6	46.3	48.7	51.0	36.82	0.12	8.96	1.36	29.34
13	21.1	23.3	25.6	30.4	32.9	35.1	37.5	39.8	44.7	47.0	49.3	35.16	0.11	7.42	1.47	29.32
τ CYGNI.* $a_0 = 21^h 9^m 40^s.92$																
Sept. 23	48.7	51.2	53.8	59.1	1.6	4.2	6.9	9.3	14.6	17.2	19.8	4.22	+0.01	—23.57	+0.36	9 41.02
27	30.9	33.4	36.0	41.1	43.8	46.4	48.9	51.5	56.8	59.3	1.9	46.36	0.07	5.88	0.42	40.97
Oct. 4	31.3	33.8	36.4	41.7	44.2	46.7	49.3	52.0	57.2	59.6	2.3	46.77	0.03	6.35	0.55	41.00
8	31.7	34.3	36.9	42.0	44.6	47.3	49.8	52.4	57.6	0.2	2.8	47.24	0.03	6.97	0.62	40.92
9	31.7	34.2	36.8	42.0	44.6	47.2	49.7	52.5	57.6	0.2	2.8	47.21	0.00	6.93	0.64	40.92
21	32.2	34.8	37.3	42.4	45.1	47.7	50.3	53.0	58.1	0.7	3.2	47.71	0.08	7.77	0.89	40.91
23	32.4	35.0	37.5	42.7	45.2	48.0	50.4	53.0	58.2	0.8	3.4	47.87	0.06	7.95	0.93	40.91
29	33.6	36.3	38.9	44.1	46.6	49.2	51.7	54.4	59.5	2.2	4.7	49.20	0.07	9.40	1.05	40.92
Nov. 2	33.7	36.3	38.7	44.0	46.7	49.2	51.7	54.3	59.5	2.2	4.8	49.19	0.13	9.51	1.15	40.96
7	32.8	35.4	38.0	43.3	45.8	48.4	51.0	53.6	58.8	1.4	4.0	48.41	0.16	8.96	1.26	40.87
σ CYGNI. $a_0 = 21^h 12^m 23^s.40$																
Sept. 23	30.9	33.6	36.0	41.4	44.0	46.6	49.3	52.0	57.2	59.9	2.6	46.68	+0.01	—23.57	+0.31	12 23.43
30	44.1	46.7	49.4	54.7	57.2	59.9	2.5	5.4	10.6	13.3	15.7	59.95	0.05	37.11	0.44	23.33
Oct. 4	13.3	16.0	18.8	24.0	26.6	29.3	32.0	34.6	39.8	42.5	45.1	29.27	0.03	6.35	0.51	23.46
8	13.7	16.5	19.1	24.3	27.0	29.7	32.3	35.0	40.3	42.9	45.6	29.67	0.03	6.97	0.59	23.32
9	13.8	16.4	19.0	24.3	27.0	29.7	32.3	35.0	40.2	43.0	45.5	29.65	0.00	6.93	0.61	23.33
21	14.4	17.0	19.6	24.8	27.5	30.1	32.8	35.5	40.8	43.4	46.0	30.17	0.09	7.77	0.86	23.35
22	14.4	17.0	19.6	24.9	27.6	30.2	32.8	35.4	40.7	43.4	46.0	30.18	0.10	7.79	0.89	23.38
29	15.8	18.4	21.0	26.4	29.0	31.6	34.3	36.9	42.2	44.9	47.4	31.63	0.08	9.40	1.04	23.35
Nov. 2	15.4	18.5	21.0	26.3	29.0	31.7	34.4	37.0	42.2	44.8	47.4	31.61	0.13	9.51	1.13	23.36
α CEPHEI.* $a_0 = 21^h 15^m 31^s.38$																
Sept. 23	29.5	33.9	38.2	47.1	51.6	55.8	0.3	4.6	13.4	17.8	22.1	55.84	+0.04	—23.57	—1.00	15 31.31
30	42.5	47.0	51.4	0.4	4.6	9.0	13.3	17.7	26.2	30.7	35.2	8.91	0.12	37.11	0.76	31.16
Oct. 3	11.7	16.1	20.4	29.2	33.5	38.0	42.4	46.7	55.5	59.9	4.3	37.97	0.07	6.14	0.65	31.25
4	11.7	16.1	20.7	29.7	34.0	38.3	42.9	47.1	55.8	0.4	4.7	38.31	0.08	6.35	0.62	31.42
5	12.0	16.2	20.6	29.4	33.9	38.3	42.5	47.0	55.8	0.3	4.6	38.24	0.06	6.45	0.57	31.28

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.			
			E.	G.*								'	"		
γ EQULEI. $\delta_0 = + 9^\circ 37' 1''.4$															
Sept. 27	m. 3 50.1	s. 45	' 1	" 10.7	' 40.3	' 45 55.50	' 46 24.28	' 36 24.07	—	' 36.92	—1.43	+78.21	—0.65	' 37	" 3.3
30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oct. 8	3 51.7	45	0	37.5	39.9	45 38.70	46 6.55	36 41.80		37.80	1.41	60.31	1.08		1.8
9	3 52.3	45	0	39.0	44.0	45 41.50	46 8.56	36 39.79		36.80	1.42	61.59	1.10		2.1
21	3 55.5	45	0	42.8	44.8	45 43.80	46 8.09	36 40.26		37.65	1.41	61.50	1.20		1.5
23	3 57.3	45	0	46.2	52.5	45 49.35	46 10.86	36 37.49		36.08	1.43	63.49	1.18		2.3
29	3 51.5	45	0	35.9	37.3	45 36.60	46 7.62	36 40.73		37.87	1.42	61.51	1.06		1.9
Nov. 2	3 55.5	45	0	43.2	41.7	45 42.45	46 8.19	36 40.16		38.01	1.43	62.34	0.92		2.1
13	4 8.3	45	1	5.5	59.0	46 2.25	46 8.19	36 40.16		39.04	1.35	63.10	0.40		2.5
ζ CYGNI.* $\delta_0 = + 29^\circ 42' 11''.1$															
Sept. 23	8 11.9	40	2	18.0	43.5	42 0.75	41 38.19	41 10.16	—	12.75	—0.87	+78.21	—3.61	42	11.1
27	7 12.3	40	1	27.8	52.9	41 10.35	41 36.16	41 12.19		12.91	0.80	76.78	4.11		11.1
30	7 42.4	40	0	56.2	51.3	40 53.75	41 20.84	41 27.51		13.33	0.81	62.61	4.51		11.5
Oct. 4	7 8.1	40	1	50.4	51.8	41 51.10	41 19.44	41 28.91		12.86	0.84	61.76	5.01		12.0
8	7 10.3	40	0	49.7	48.8	40 49.25	41 18.44	41 29.91		13.22	0.82	60.31	5.41		10.8
9	7 8.1	40	0	47.8	49.1	40 48.45	41 20.20	41 28.15		12.87	0.83	61.59	5.51		10.5
21	7 6.2	40	0	45.0	44.0	40 44.50	41 19.27	41 29.08		13.17	0.86	61.50	6.21		10.3
22	7 13.2	40	0	52.2	54.0	40 53.10	41 19.61	41 28.74		12.81	0.81	62.54	6.21		11.4
23	7 12.2	40	0	51.7	54.2	40 52.95	41 20.86	41 27.49		12.63	0.82	63.49	6.21		11.3
29	7 13.7	40	0	52.6	49.7	40 51.15	41 18.83	40 29.52		13.25	0.99	61.51	6.41		10.4
Nov. 7	7 11.5	40	0	56.8	43.9	40 50.35	41 19.77	41 28.58		13.37	0.74	63.21	6.41		11.3
13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
τ CYGNI.* $\delta_0 = + 37^\circ 29' 58''.8$															
Sept. 23	9 40.7	50	3	49.0	16.0	53 32.50	53 57.46	28 50.89	—0	4.83	—0.79	+78.21	—4.19	29	59.3
27	9 27.7	50	3	52.2	18.0	53 35.10	53 54.96	28 53.39	0	4.90	0.77	76.78	4.89		59.6
Oct. 4	9 19.2	50	3	9.8	11.4	53 10.60	53 39.91	29 8.44	0	4.88	0.94	61.76	5.89		58.5
8	9 18.3	50	3	6.6	6.2	53 6.40	53 37.09	29 11.26	0	5.01	0.96	60.31	6.39		59.2
9	9 15.0	50	3	3.8	4.7	53 4.25	53 38.45	29 9.90	0	4.89	0.97	61.59	6.49		59.1
21	9 21.1	50	3	11.3	7.8	53 9.55	53 37.80	29 10.55	0	5.00	0.91	61.50	7.59		58.6
23	9 22.7	50	3	10.7	13.7	53 12.20	53 38.97	29 9.38	0	4.79	0.91	63.49	7.69		59.5
29	9 24.1	50	3	11.6	8.7	53 10.15	53 36.81	29 11.54	0	5.03	0.91	61.51	7.99		59.1
Nov. 2	9 24.5	50	3	13.8	10.0	53 11.90	53 38.13	29 10.22	0	5.05	0.91	62.34	7.99		58.6
7	9 25.5	50	3	19.3	8.7	53 14.00	53 38.32	29 10.03	0	5.07	0.60	63.21	7.99		59.6
σ CYGNI. $\delta_0 = + 38^\circ 51' 33''.1$															
Sept. 23	12 15.7	30	2	11.3	36.8	31 54.05	32 26.36	50 21.99	—0	3.48	—0.63	+78.21	—4.21	51	31.9
30	12 34.1	30	1	44.2	39.3	31 41.75	32 8.64	50 39.71	0	3.64	0.61	62.61	5.42		32.6
Oct. 4	12 6.4	30	1	42.9	44.3	31 43.60	32 7.47	50 40.88	0	3.52	0.56	61.76	6.03		32.5
8	11 58.8	30	1	33.1	33.0	31 33.05	32 5.26	50 43.09	0	3.61	0.67	60.31	6.57		32.6
9	12 5.3	30	1	41.1	42.7	31 41.90	32 7.23	50 41.12	0	3.52	0.56	61.59	6.69		31.9
21	11 54.5	30	1	31.7	28.0	31 29.85	32 7.06	50 41.29	0	3.60	0.74	61.50	7.83		30.6
22	12 2.3	30	1	36.6	36.5	31 36.55	32 5.63	50 42.72	0	3.50	0.62	62.54	7.90		33.2
29	12 7.8	30	1	41.3	38.2	31 39.75	32 4.56	50 43.79	0	3.62	0.58	61.51	8.25		32.8
Nov. 2	12 15.6	30	1	51.9	47.2	31 49.55	32 6.23	50 42.12	0	3.64	0.52	62.34	8.36		31.9
α CEPHEI.* $\delta_0 = + 62^\circ 2' 36''.4$															
Sept. 23	15 22.4	20	1	43.0	4.0	21 23.50	21 44.46	1 3.89	+0	20.24	+0.36	+78.21	—4.78	2	37.9
30	15 34.1	20	1	12.6	4.3	21 8.45	21 30.29	1 18.06	0	21.17	0.33	62.61	6.38		35.8
Oct. 3	14 54.5	20	0	59.0	58.0	20 58.50	21 25.79	1 22.56	0	20.27	0.20	61.57	6.98		37.6
4	14 55.5	20	1	1.9	59.0	21 0.45	21 27.31	1 21.04	0	20.43	0.21	61.76	7.18		36.3
5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Date.		Right Ascension Wires.										Seconds of Transit over Mean Wire.	n tang. δ + κ.	ΔT + m.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
1871.		1	2	3	4	5	6	7	8	9	10						11
α CEPHEI.* a ₀ = 21 ^h 15 ^m 31 ^s .38																	
Oct.	8	s.	s.	s.	s. 29.7	s. 34.2	s. 38.5	s. 42.9	s. 47.3	s.	s.	s.	s. 38.52	s. +0.09	s. -6.97	s. -0.46	m. 15 s. 31.18
	9	12.4	16.6	21.0	29.7	34.4	38.5	43.0	47.4	56.3	0.6	5.0	38.63	0.01	6.93	-0.43	31.28
	21	12.5	16.9	21.4	30.1	34.5	38.8	43.4	47.7	56.4	0.8	5.3	38.89	0.22	7.77	+0.05	31.39
	22	12.5	16.8	21.1	30.3	34.3	38.7	43.1	47.6	56.2	0.8	5.2	38.78	0.24	7.79	+0.09	31.32
	23	12.7	17.2	21.5	30.5	34.8	39.0	43.5	47.8	56.8	0.9	5.3	39.09	0.15	7.95	+0.13	31.42
	29	13.7	18.2	22.6	31.5	35.8	40.1	44.4	48.7	57.6	2.1	6.6	40.12	0.19	9.40	+0.39	31.30
Nov.	2	13.8	18.0	22.6	31.1	35.6	40.0	44.7	48.8	57.6	2.0	6.6	40.07	0.33	9.51	+0.56	31.45
1 H. DRACONIS L. C.* a ₀ = 9 ^h 18 ^m 38 ^s .09																	
Oct.	3	....	....	....	5.6	20.3	34.8	49.0	3.2	....	....	....	34.58	-0.29	-6.14	+10.47	18 38.62
	4	....	....	....	5.5	20.4	34.8	49.8	64.3	....	....	....	34.96	0.30	6.35	10.33	38.64
	5	....	....	....	6.0	20.5	34.8	49.8	64.2	....	....	....	35.06	0.23	6.45	10.18	38.56
	8	7.5	22.1	38.1	7.1	21.1	35.6	50.9	5.5	35.3	49.0	3.3	35.95	0.35	6.97	9.74	38.37
	9	8.4	22.8	37.9	6.6	21.1	36.0	50.6	5.4	34.4	49.0	3.3	35.95	0.07	6.93	9.58	38.53
	21	12.2	26.6	41.3	10.7	25.1	39.6	54.3	8.7	37.9	52.4	7.0	39.61	0.82	7.77	7.64	38.66
	22	....	....	....	10.6	25.2	39.5	53.7	8.9	....	....	....	39.58	0.92	7.79	7.48	38.35
	23	....	....	....	10.5	24.7	39.9	54.2	68.7	....	....	....	39.60	0.59	7.95	7.29	38.35
Nov.	2	15.2	31.0	45.2	13.1	28.7	43.3	58.0	12.7	42.2	55.7	10.6	43.33	1.24	9.51	5.52	38.10
b CAPRICORN. a ₀ = 21 ^h 21 ^m 25 ^s .30																	
Sept.	27	16.9	19.1	21.3	25.8	27.9	30.1	32.2	34.5	39.1	41.3	43.6	30.16	-0.06	-5.88	+1.09	21 25.31
Oct.	3	17.0	19.2	21.4	26.0	28.1	30.4	32.5	34.7	39.1	41.5	43.7	30.33	0.04	6.14	1.16	25.31
	21	18.5	20.6	22.9	27.3	29.5	31.7	34.0	36.3	40.7	42.9	45.2	31.78	0.07	7.77	1.41	25.35
Nov.	9	19.0	21.1	23.4	28.0	30.1	32.3	34.5	36.7	41.1	43.5	45.7	32.31	0.10	8.62	1.71	25.30
	13	18.0	20.0	22.1	26.6	28.9	31.1	33.3	35.5	39.9	42.2	44.4	31.09	0.11	7.41	1.78	25.35
d URSÆ MAJORIS L. C.* a ₀ = 9 ^h 23 ^m 7 ^s .42																	
Sept.	30	2.1	8.0	14.1	26.6	33.0	38.5	45.0	51.1	4.0	9.9	15.6	38.80	-0.19	-37.11	+5.72	22 7.22
Oct.	8	32.5	38.7	45.0	57.1	3.6	9.5	15.1	21.8	34.1	40.4	45.9	9.43	0.15	6.97	5.10	7.41
	22	34.7	41.0	47.0	59.2	5.4	11.4	17.6	23.7	36.0	41.8	48.0	11.44	0.37	7.79	4.11	7.39
Nov.	7	37.6	43.6	49.6	1.8	8.1	13.9	20.4	26.4	38.7	44.9	50.8	14.16	0.63	8.96	2.86	7.43
	13	....	....	....	....	6.8	13.3	18.9	25.6	37.9	44.0	49.7	13.18	0.57	7.41	2.36	7.56
	28	32.6	39.0	45.1	57.3	3.5	9.5	16.1	22.0	34.2	40.2	45.8	9.57	0.74	2.72	1.13	7.24
β AQUARI.* a ₀ = 21 ^h 24 ^m 49 ^s .16																	
Sept.	27	41.7	43.8	45.8	50.0	52.1	54.1	56.1	58.2	2.3	4.4	6.5	54.09	-0.03	-5.88	+1.00	24 49.18
Oct.	4	42.0	44.2	46.4	50.2	52.4	54.6	56.6	58.6	2.8	4.8	7.0	54.51	0.02	6.35	1.09	49.23
	23	43.4	45.5	47.5	51.6	53.7	55.8	57.9	0.0	4.1	6.0	8.2	55.79	0.03	7.95	1.33	49.14
Nov.	7	....	....	....	....	....	....	....	0.7	5.0	7.0	9.1	56.68	0.04	8.96	1.53	49.21
	9	43.9	46.0	49.1	52.1	54.1	56.3	58.4	0.5	4.6	6.6	8.7	56.30	0.04	8.62	1.56	49.20
	13	....	....	....	....	....	55.0	57.1	59.4	3.4	5.5	7.6	55.13	0.04	7.41	1.61	49.29
	19	40.7	42.7	44.8	49.0	51.0	53.0	55.1	57.1	1.3	3.3	5.4	53.03	0.05	5.51	1.70	49.17
β CEPHEI.* a ₀ = 21 ^h 26 ^m 59 ^s .98																	
Sept.	23	....	....	....	13.3	19.8	25.5	31.7	37.7	....	....	....	25.60	+0.07	-23.57	-2.16	26 59.94
	30	2.4	9.0	14.6	26.9	32.9	39.1	45.1	51.3	2.3	9.0	14.6	38.84	0.18	37.11	1.85	60.06
Oct.	3	....	....	....	55.9	1.9	7.8	13.6	19.5	....	....	....	7.74	0.11	6.14	1.70	60.01
	4	....	....	....	56.0	1.6	8.2	14.1	20.2	....	....	....	8.02	0.12	6.35	1.65	60.14
	8	32.3	38.3	44.3	56.0	2.0	8.1	14.2	20.3	32.4	38.3	44.5	8.24	0.14	6.97	1.45	59.96
	22	32.1	38.1	43.9	56.1	2.4	8.1	14.1	20.1	32.3	38.3	44.3	8.16	0.36	7.79	0.67	60.06
	31	....	....	....	56.8	3.0	9.0	14.8	20.9	....	....	....	8.90	0.45	9.21	0.13	60.01

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
<i>α</i> CEPHEI.* $\delta_0 = + 62^\circ 2' 36''.4$												
Oct. 8	16 11.8	20 1	48.6	42.7	21 45.65	21 24.73	1 23.62	+0 20.27	+0.49	+60.31	-7.98	36.7
9	14 54.0	20 0	59.0	55.1	20 57.05	21 25.03	1 23.32	0 21.00	0.21	61.59	8.18	37.9
21	14 54.1	20 0	59.4	52.3	20 55.85	21 24.03	1 24.32	0 20.93	0.20	61.50	10.08	36.9
22	14 55.3	20 0	56.4	53.9	20 55.15	21 22.45	1 25.90	0 20.34	0.22	62.54	10.18	38.8
23	15 0.8	20 0	59.9	59.1	20 59.50	21 23.53	1 24.82	0 20.10	0.30	63.49	10.38	38.3
29	15 1.6	20 0	3.0	53.6	19 58.30	21 22.46	1 25.89	0 20.13	0.31	61.51	11.08	36.8
Nov. 2	.....											.....
<i>1</i> H. DRACONIS L. C.* $\delta_0 = + 98^\circ 6' 40''.1$												
Oct. 3	17 31.6	15 3	42.0	37.9	18 39.95	18 28.06	4 20.29	+1 23.02	+1.62	+61.57	-3.42	6 43.1
4	17 51.2	15 3	41.0	35.0	18 38.00	18 29.74	4 18.61	1 23.68	1.45	61.76	3.62	41.9
5	17 53.6	15 3	38.5	35.2	18 36.85	18 29.01	4 19.34	1 23.02	1.44	62.62	3.82	42.6
8	18 2.6	15 3	37.2	29.9	18 33.55	18 27.25	4 21.10	1 26.00	1.42	60.31	4.62	44.2
9	17 48.2	15 3	40.6	34.8	18 37.70	18 28.70	4 19.65	1 23.82	1.53	61.59	4.82	41.8
21	17 56.6	15 3	43.5	32.5	18 38.00	18 29.89	4 18.46	1 25.75	1.50	61.50	6.42	40.8
22	17 40.2	15 3	38.5	32.9	18 35.70	18 24.39	4 23.96	1 23.30	1.60	62.54	6.62	44.8
23	19 30.5	15 3	17.3	13.6	18 15.45	18 25.05	4 23.30	1 22.11	1.60	63.49	6.82	43.7
Nov. 2	.....											.....
<i>b</i> CAPRICORN. $\delta_0 = - 22^\circ 21' 46''.9$												
Sept. 27	21 9.3	40 3	45.9	18.2	43 32.05	43 57.92	21 9.57	-2 1.00	-2.50	+76.78	+7.73	21 48.6
Oct. 3	21 23.8	40 3	35.0	41.6	43 38.30	43 46.35	20 58.00	1 59.50	2.76	61.57	8.22	50.5
21	21 14.3	40 3	16.1	22.8	43 19.45	43 41.11	20 52.76	2 3.49	2.61	61.50	8.64	48.7
Nov. 9	21 11.8	40 3	16.7	16.7	43 16.70	43 42.08	20 53.73	2 6.00	2.33	63.04	10.94	48.1
13	21 13.7	40 3	19.7	19.8	43 19.75	43 41.29	20 52.94	2 7.90	2.34	63.10	11.18	48.9
<i>d</i> URSAE MAJORIS L. C.* $\delta_0 = + 109^\circ 36' 33''.1$												
Sept. 30	.....											.....
Oct. 8	23 35.6	45 4	25.0	15.0	49 20.00	49 31.77	33 16.58	+2 18.93	-1.57	+60.31	-2.13	36 35.3
22	22 10.9	45 4	58.5	50.9	49 54.70	49 27.53	33 20.82	2 14.60	1.99	62.54	5.23	34.7
Nov. 7	22 7.3	50 0	15.3	54.0	50 4.65	49 34.61	33 13.74	2 20.44	2.95	63.21	7.83	32.5
13	23 42.5	45 4	30.3	13.9	49 22.10	49 35.26	33 13.09	2 23.52	1.98	63.10	8.43	33.3
28	22 3.3	50 0	20.0	57.2	50 8.60	49 38.83	33 9.52	2 27.11	2.93	63.69	8.53	34.7
<i>β</i> AQUARI.* $\delta_0 = - 6^\circ 7' 57''.6$												
Sept. 27	24 35.2	30 0	50.3	21.8	30 36.05	31 1.20	8 12.85	-1 4.85	-1.81	+76.78	+3.70	7 59.0
Oct. 4	24 42.1	30 0	25.0	33.2	30 29.10	30 45.61	7 57.26	1 4.55	1.82	61.76	3.80	58.1
23	24 34.3	30 0	15.1	22.7	30 18.90	30 47.52	7 59.17	1 3.36	1.78	63.49	4.40	56.4
Nov. 7	25 17.7	30 1	15.9	11.5	31 13.70	30 45.74	7 57.39	1 7.07	1.83	63.21	5.20	57.9
9	24 39.4	30 0	25.2	23.0	30 24.10	30 46.73	7 58.38	1 7.52	1.77	63.04	5.30	59.3
13	(25 13.5)	30 1	7.2	4.3	31 5.75	30 41.26	7 52.91	1 8.52	1.83	63.10	5.60	(51.3)
19	24 39 6	30 0	28.2	26.7	30 27.45	31 45.29	7 56.94	1 8.14	1.77	63.05	5.90	57.9
<i>β</i> CEPHEI.* $\delta_0 = + 69^\circ 59' 55''.6$												
Sept. 23	27 56.5	25 0	11.0	31.0	24 51.05	24 36.90	58 11.45	+0 29.63	+0.27	+78.21	-3.50	59 56.1
30	26 57.7	20 4	6.7	56.8	24 1.75	24 20.57	58 27.78	0 31.00	0.10	62.61	5.30	56.2
Oct. 3	26 12.8	20 3	52.7	51.2	23 51.95	24 17.09	58 31.26	0 29.67	-0.11	61.57	6.00	56.4
4	27 25.3	20 4	27.7	25.1	24 26.40	24 18.48	58 29.87	0 29.92	+0.29	61.76	6.20	55.6
8	26 48.3	20 4	8.8	2.9	24 5.85	24 14.91	58 33.44	0 30.75	0.31	60.31	7.10	57.7
22	26 14.7	20 3	50.3	46.2	23 48.25	24 12.75	58 35.60	0 29.80	-0.07	62.54	9.70	58.2
31	27 36.3	20 4	29.8	23.2	24 26.50	24 13.96	58 34.39	0 30.22	+0.21	62.08	10.90	56.0

Date. 1871.		Right Ascension Wires.										Seconds of transit over Mean Wire.	$n \tan \delta$ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
1	2	3	4	5	6	7	8	9	10	11							
β CEPHEI.* $\alpha_0 = 21^h 26^m 59^s.98$																	
Nov.	2	33.2	39.0	45.0	57.0	2.8	9.2	15.3	21.3	33.4	39.5	45.5	9.20	+0.49	— 9.51	—0.01	26 60.17
	5	32.8	38.8	45.0	56.8	2.8	9.0	15.0	21.0	33.0	39.0	45.0	8.93	0.51	9.58	+0.18	60.04
	7	32.0	38.3	44.1	56.0	2.0	8.0	14.1	20.0	31.9	38.2	44.2	8.07	0.62	8.96	+0.29	60.02
	9	32.0	37.4	43.8	55.5	1.7	7.4	13.7	19.7	31.6	37.6	43.7	7.62	0.54	8.62	+0.42	59.96
	13	30.1	36.1	42.3	54.0	0.1	6.1	12.1	18.4	30.5	36.4	42.2	6.21	0.56	7.41	+0.67	60.03
ρ CYGNI. $\alpha_0 = 21^h 29^m 10^s.10$																	
Oct.	8	59.2	2.1	5.0	10.7	13.7	16.6	19.6	22.5	28.2	30.2	34.1	16.54	+0.04	— 6.97	+0.35	29 9.96
	31	1.0	3.7	6.6	12.5	15.3	18.3	21.0	24.0	29.9	32.7	35.7	18.24	0.16	9.21	0.89	10.08
Nov.	5	...	...	...	12.5	15.5	18.5	21.4	24.2	...	...	...	18.42	0.18	9.58	1.02	10.04
	7	...	...	...	12.0	14.7	18.0	20.6	23.5	...	...	...	17.76	0.22	8.96	1.07	10.09
	13	58.7	1.4	4.3	10.1	13.1	16.0	18.9	21.7	27.7	30.5	33.4	15.98	0.20	7.41	1.22	9.99
	19	56.6	59.3	2.3	8.0	10.9	13.8	16.8	19.8	25.5	28.5	31.4	13.90	0.33	5.51	1.26	9.98
	28	53.3	56.4	59.4	4.8	7.9	10.9	13.9	16.7	22.4	25.4	28.4	10.86	0.26	2.72	1.59	9.99
ξ AQUARI. $\alpha_0 = 21^h 30^m 56^s.15$																	
Oct.	22	50.3	52.3	54.5	58.6	0.6	2.8	4.9	6.9	11.0	13.1	15.2	2.74	—0.04	— 7.79	+1.30	30 56.21
	31	...	53.7	55.8	59.9	2.1	4.0	6.2	8.3	12.5	14.5	16.7	4.12	0.04	9.21	1.42	56.29
Nov.	7	51.3	53.3	55.4	59.5	1.6	3.7	5.8	7.8	12.0	14.1	16.1	3.69	0.05	8.95	1.52	56.21
	13	49.7	51.7	53.8	58.0	0.0	2.0	4.1	6.2	10.4	12.4	14.5	2.07	0.05	7.41	1.60	56.21
	19	47.5	49.8	51.8	55.9	58.0	0.3	2.2	4.3	8.4	10.5	12.6	0.12	0.07	5.51	1.68	56.13
	28	44.9	46.5	48.7	53.0	55.0	57.1	59.3	1.3	5.4	7.5	9.6	57.12	0.06	2.72	1.79	56.13
γ CAPRICORNI. $\alpha_0 = 21^h 32^m 59^s.77$																	
Sept.	23	9.7	11.8	14.0	18.1	20.5	22.6	24.7	26.9	31.1	33.3	35.5	22.56	—0.03	—23.57	+0.98	32 59.94
	30	23.2	25.1	27.5	31.6	33.9	36.0	38.1	40.3	44.5	46.6	48.7	35.95	0.04	37.11	1.05	59.85
Oct.	4	52.2	54.4	56.5	0.8	3.1	5.2	7.3	9.5	13.7	16.0	18.2	5.17	0.03	6.36	1.09	59.87
	8	52.8	54.9	57.0	1.4	3.6	5.7	7.8	10.1	14.4	16.6	18.7	5.73	0.04	6.97	1.14	59.86
	22	53.5	55.6	57.7	2.0	4.2	6.3	8.4	10.6	14.9	17.0	19.2	6.31	0.06	7.79	1.33	59.79
Nov.	5	55.0	57.1	59.4	3.7	5.8	8.0	10.1	12.2	16.5	18.7	21.0	7.95	0.08	9.58	1.53	59.82
	19	50.7	52.9	55.1	59.3	1.6	3.8	6.0	8.1	12.3	14.5	16.7	3.73	0.12	5.50	1.73	59.84
	28	47.8	50.0	52.1	56.4	58.5	0.7	2.7	5.0	9.3	11.4	13.7	0.69	0.10	2.72	1.84	59.71
κ CAPRICORNI. $\alpha_0 = 21^h 35^m 30^s.30$																	
Oct.	4	22.7	24.9	27.1	31.4	33.7	35.8	38.0	40.4	44.5	46.7	49.0	35.84	—0.04	— 6.36	+1.08	35 30.52
	8	23.4	25.5	27.6	32.0	34.2	36.4	38.6	40.8	45.2	47.4	49.5	36.42	0.04	6.97	1.13	30.54
	22	24.0	26.1	28.4	32.8	35.0	37.0	39.2	41.4	45.8	47.9	50.0	37.05	0.07	7.79	1.32	30.51
Nov.	5	25.8	28.0	30.1	34.1	36.5	38.7	41.0	43.1	47.4	49.6	51.8	38.74	0.09	9.58	1.53	30.60
	7	25.0	27.1	29.4	33.7	35.8	38.0	40.3	42.4	46.8	48.9	51.2	38.05	0.10	8.95	1.56	30.56
	9	24.7	26.7	28.9	33.4	35.5	37.7	39.8	42.1	46.5	48.6	50.8	37.70	0.09	8.61	1.59	30.59
	19	21.3	23.5	25.8	30.1	32.3	34.5	36.6	38.8	43.1	45.3	47.5	34.44	0.14	5.50	1.73	30.53
	28	18.3	20.5	22.7	27.0	29.1	31.3	33.7	35.7	40.1	42.3	44.4	31.37	0.11	2.72	1.85	30.39
ϵ PEGASI.* $\alpha_0 = 21^h 37^m 53^s.94$																	
Sept.	23	4.3	6.4	8.5	12.7	14.8	16.9	18.9	21.0	25.0	27.2	29.3	16.82	—0.01	—23.57	+0.80	37 54.04
	27	46.5	48.6	50.8	54.6	56.9	59.0	1.0	3.1	7.4	9.4	11.6	58.99	0.00	5.89	0.85	53.95
	30	17.8	19.9	22.0	26.1	28.1	30.2	32.3	34.4	38.5	40.6	42.8	30.25	0.00	37.11	0.88	54.02
Oct.	3	...	...	...	55.0	57.1	59.3	1.4	3.4	...	...	...	59.24	0.01	6.14	0.90	53.99
	4	46.9	49.0	51.1	55.2	57.3	59.4	1.5	3.6	7.7	10.0	12.0	59.43	0.01	6.36	0.91	53.97
	8	47.4	49.6	51.6	55.8	57.9	0.0	2.1	4.2	8.3	10.4	12.5	59.98	0.01	6.97	0.97	53.97

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
β CEPHEI.* $\delta_0 = + 69^\circ 59' 55''.6$												
Nov. 2	26 18.7	20 3	56.7	46.6	23 51.65	24 14.77	58 33.58	+0 30.95	-0.03	+62.34	-11.10	55.7
5	26 25.8	20 4	1.2	49.6	23 55.40	24 15.13	58 33.22	0 31.67	+0.45	62.73	11.40	56.7
7	28 7.5	20 4	49.1	34.7	24 41.90	24 14.70	58 33.65	0 31.08	0.08	63.21	11.60	56.4
9	26 36.3	20 4	6.8	54.7	24 0.75	24 15.08	58 33.27	0 31.28	0.59	63.04	11.70	56.5
13	.....											.....
ρ CYGNI. $\delta_0 = + 45^\circ 1' 37''.8$												
Oct. 8	28 56.5	20 1	51.9	49.9	21 50.90	22 9.82	0 38.53	+0 2.72	-0.31	+60.31	-6.26	1 35.0
31	29 43.9	20 2	34.1	31.1	22 32.60	22 8.19	0 40.16	0 2.67	0.50	62.08	8.78	35.6
Nov. 5	29 32.1	20 2	27.1	18.8	22 22.95	22 9.99	0 38.36	0 2.80	0.13	62.73	8.99	34.8
7	29 35.1	20 2	31.1	19.1	22 25.10	22 8.74	0 39.61	0 2.75	0.17	63.21	9.04	36.4
13	28 57.5	20 1	56.7	47.1	21 51.90	22 9.40	0 38.95	0 2.81	0.12	63.10	9.09	35.6
19	28 53.9	20 1	54.8	46.3	21 50.55	22 9.47	0 38.88	0 2.79	0.11	63.05	8.93	35.7
28	28 48.6	20 1	57.5	43.0	21 50.25	22 11.25	0 37.10	0 2.89	0.13	63.69	8.37	35.2
ξ AQUARI. $\delta_0 = - 8^\circ 25' 37''.3$												
Oct. 22	30 43.2	45 2	51.6	59.9	47 55.75	48 21.57	25 33.22	-1 9.71	-2.29	+62.54	+5.24	25 37.4
31	31 26.4	45 3	47.8	53.2	48 50.50	48 20.83	25 32.48	1 10.73	2.44	62.08	5.70	37.9
Nov. 7	30 47.6	45 3	1.2	57.3	47 59.25	48 20.44	25 32.09	1 12.74	2.05	63.21	6.09	37.6
13	30 42.9	45 2	53.4	52.0	47 52.70	48 18.12	25 29.77	1 14.32	2.03	63.10	6.45	36.6
19	31 12.1	45 3	36.4	35.3	48 35.85	48 19.96	25 31.61	1 13.89	2.04	63.05	6.81	37.7
28	30 47.5	45 3	7.3	1.1	48 4.20	48 16.91	25 28.56	1 16.18	2.01	63.69	7.38	35.7
γ CAPRICORNI. $\delta_0 = - 17^\circ 14' 21''.5$												
Sept. 23	33 5.2	35 1	47.1	19.4	36 33.25	36 55.49	14 7.14	-1 36.24	-2.20	+78.21	+6.27	14 21.1
30	33 17.2	35 1	8.7	11.1	36 9.90	36 33.81	13 45.46	1 40.73	2.19	62.61	6.68	19.1
Oct. 4	32 46.2	35 1	8.0	16.4	36 12.20	36 36.49	13 48.14	1 37.19	2.20	61.76	6.94	18.8
8	32 44.9	35 1	5.3	12.5	36 8.90	36 35.50	13 47.15	1 39.90	2.17	60.31	7.21	21.7
22	32 49.6	35 1	15.4	23.0	36 19.20	36 40.42	13 52.07	1 36.80	2.23	62.54	8.18	20.4
Nov. 5	32 45.7	35 1	9.2	9.7	36 9.45	36 37.83	13 49.48	1 42.94	2.07	62.73	9.13	22.6
19	32 46.3	35 1	16.1	15.0	36 15.55	36 37.80	13 49.45	1 42.59	2.07	63.05	9.98	21.1
28	(33 20.1)	35 1	59.3	54.0	36 56.65	36 31.84	13 43.49	1 45.74	2.10	63.69	10.46	(17.2)
κ CAPRICORNI. $\delta_0 = - 19^\circ 26' 54''.8$												
Oct. 4	35 12.9	45 3	29.6	37.9	48 33.75	49 2.66	26 14.31	-1 46.30	-2.59	+61.76	+7.56	26 53.9
8	35 18.4	45 3	33.6	40.7	48 37.15	48 59.88	26 11.53	1 49.27	2.64	60.31	7.88	55.2
22	35 14.9	45 3	35.3	43.0	48 39.15	49 7.05	26 18.70	1 45.84	2.62	62.54	8.94	55.7
Nov. 5	35 18.3	45 3	34.7	34.2	48 34.45	49 0.07	26 11.72	1 52.60	2.31	62.73	9.95	53.9
7	35 19.6	45 3	41.6	38.2	48 39.90	49 3.26	26 14.91	1 50.45	2.32	63.21	10.08	54.4
9	35 16.8	45 3	37.1	36.9	48 37.00	49 3.38	26 15.03	1 51.16	2.30	63.04	10.21	55.2
19	35 55.0	45 4	28.4	27.2	49 27.80	49 1.79	26 13.34	1 52.22	2.27	63.05	10.81	54.0
28	35 11.9	45 3	33.9	29.0	48 31.45	48 56.07	26 7.72	1 55.67	2.24	63.69	11.28	(50.7)
ϵ PEGASI.* $\delta_0 = + 9^\circ 17' 21''.3$												
Sept. 23	37 56.7	5 0	57.1	26.5	5 41.80	6 8.36	16 39.99	-0 36.90	-1.42	+78.21	+1.03	17 20.9
27	38 22.8	5 1	52.3	22.3	5 37.30	6 5.86	16 42.49	0 37.44	1.55	76.78	0.83	21.1
30	38 12.8	5 0	24.0	23.3	5 23.65	6 48.45	16 59.90	0 38.62	1.39	62.61	0.63	23.1
Oct. 3	37 36.7	5 0	18.6	25.7	5 22.15	5 51.87	16 56.48	0 36.95	1.40	61.57	0.53	20.2
4	37 35.9	5 0	15.1	21.3	5 18.20	5 49.24	16 59.11	0 37.27	1.39	61.76	0.43	22.6
8	37 41.2	5 0	21.2	24.4	5 22.80	5 47.63	17 0.72	0 38.31	1.39	60.31	0.33	21.7

Date. 1871.	Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
	1	2	3	4	5	6	7	8	9	10	11						
ϵ PEGASI.* $a_0 = 21^h 37^m 53^s.94$																	
Oct. 16	48.1	50.2	52.2	56.5	58.5	0.6	2.5	4.7	8.8	11.0	13.2	0.57	-0.00	-	7.71	+1.07	37 53.93
22	48.2	50.3	52.4	56.4	58.6	0.6	2.7	4.8	9.0	11.0	13.1	0.64	+0.01	-	7.79	1.15	54.01
Nov. 5	49.8	51.8	53.8	58.0	0.2	2.2	4.3	6.4	10.6	12.6	14.6	2.21	+0.02	-	9.58	1.34	53.99
7	49.0	51.1	53.2	57.4	59.4	1.5	3.5	5.7	9.8	12.0	14.0	1.51	+0.02	-	8.95	1.37	53.95
28	42.3	44.4	46.6	50.7	52.8	54.9	57.0	59.0	3.2	5.3	7.5	54.88	+0.03	-	2.72	1.66	53.85
δ CAPRICORNI. $a_0 = 21^h 39^m 58^s.34$																	
Oct. 16	52.2	54.3	56.4	0.7	2.8	5.0	7.2	9.3	13.6	15.6	17.9	5.00	-0.04	-	7.71	+1.20	39 58.45
22	52.1	54.3	56.5	0.8	2.9	5.0	7.2	9.3	13.6	15.7	17.9	5.03	0.06	-	7.79	1.28	58.46
Nov. 5	53.9	56.0	58.0	2.4	4.6	6.7	9.0	11.0	15.2	17.4	19.7	6.72	0.08	-	9.58	1.48	58.54
9	52.9	55.0	57.1	1.4	3.5	5.7	7.8	10.0	14.2	16.5	18.6	5.70	0.08	-	8.61	1.54	58.55
19	49.6	51.6	53.8	58.1	0.2	2.4	4.5	6.7	10.9	13.1	15.3	2.38	0.12	-	5.50	1.67	58.43
28	46.6	48.6	50.7	54.9	57.2	59.5	1.6	3.7	8.1	10.2	12.2	59.39	0.10	-	2.72	1.79	58.36
11 CEPHEI.* $a_0 = 21^h 40^m 2^s.35$																	
Oct. 8	...	...	...	58.3	4.4	10.5	16.6	23.4	...	...	...	10.64	+0.14	-	6.97	-1.63	40 2.18
31	34.1	40.4	46.5	59.0	5.3	11.6	17.7	24.0	36.4	42.7	48.8	11.50	0.47	-	9.21	-0.31	2.45
Nov. 7	32.8	39.5	45.8	57.6	4.1	10.4	16.8	23.0	35.3	41.7	47.9	10.41	0.64	-	8.95	+0.12	2.22
Dec. 6	18.9	25.1	31.5	44.2	50.5	56.4	2.9	9.2	21.4	27.7	33.9	56.52	1.24	+	2.45	+1.96	2.17
π^2 CYGNI.* $a_0 = 21^h 42^m 3^s.94$																	
Oct. 4	51.6	54.6	57.5	4.1	7.1	10.2	13.3	16.5	22.7	25.8	28.8	10.20	+0.04	-	6.36	+0.08	42 3.96
8	52.0	55.0	58.2	4.4	7.5	10.3	13.8	16.9	23.1	26.2	29.4	10.62	-0.05	-	6.97	0.18	3.88
16	52.6	55.6	58.7	4.9	8.1	11.3	14.3	17.5	23.7	26.9	30.0	11.24	+0.07	-	7.71	0.37	3.97
31	...	...	...	6.0	9.1	12.4	15.3	18.5	...	...	...	12.26	0.18	-	9.21	0.85	4.08
Nov. 5	53.9	56.9	0.0	6.2	9.3	12.5	15.6	18.9	24.9	28.3	31.3	12.53	0.20	-	9.58	0.89	4.04
7	53.2	56.0	59.2	5.5	8.5	11.6	14.8	17.9	24.4	27.2	30.4	11.70	0.25	-	8.95	0.96	3.96
9	52.5	55.7	58.8	5.1	8.2	11.4	14.4	17.5	23.6	26.8	29.8	11.25	0.22	-	8.61	0.99	3.85
28	46.0	49.2	52.3	58.5	1.6	4.7	7.7	10.9	17.0	20.4	23.5	4.71	0.30	-	2.72	1.48	3.77
Dec. 6	...	...	...	52.9	56.1	59.3	2.4	5.5	...	...	...	59.24	0.49	+	2.45	1.69	3.87
14 PEGASI. $a_0 = 21^h 44^m 11^s.00$																	
Oct. 8	3.1	5.4	7.9	12.6	14.9	17.4	19.6	22.0	26.7	29.1	31.6	17.30	+0.02	-	6.97	+0.68	44 11.03
22	3.7	6.2	8.5	13.2	15.5	18.0	20.3	22.7	27.4	29.7	32.0	17.93	0.07	-	7.79	0.90	11.11
23	4.0	6.3	8.6	13.3	15.6	18.0	20.4	22.7	27.5	29.8	32.2	18.04	0.04	-	7.95	0.92	11.05
31	5.0	7.3	9.6	14.4	16.8	19.1	21.4	23.8	28.6	30.9	33.3	19.11	0.08	-	9.21	1.06	11.04
Nov. 5	5.3	7.5	10.0	14.6	16.9	19.4	21.8	24.1	28.7	31.2	33.6	19.37	0.10	-	9.58	1.15	11.04
7	4.5	6.8	9.2	14.0	16.3	18.7	21.0	23.4	27.9	30.4	32.8	18.64	0.12	-	8.95	1.18	10.99
9	4.2	6.5	8.8	13.5	15.9	18.2	20.5	22.9	27.7	30.1	32.4	18.25	0.10	-	8.61	1.22	10.96
19	0.9	3.1	5.4	10.1	12.5	15.0	17.3	19.7	24.4	26.8	29.2	14.94	0.18	-	5.51	1.39	11.00
28	57.7	0.1	2.5	7.3	9.7	12.1	14.4	16.7	21.6	23.9	26.1	12.01	0.14	-	2.72	1.55	10.98
μ CAPRICORNI. $a_0 = 21^h 46^m 18^s.94$																	
Oct. 4	11.6	13.7	16.0	20.1	22.2	24.4	26.3	28.6	32.8	34.9	37.0	24.33	-0.03	-	6.36	+1.02	46 18.96
8	...	...	...	20.7	22.9	25.0	27.0	29.2	...	...	...	24.96	0.03	-	6.97	1.06	19.02
22	12.9	15.0	17.1	21.3	23.5	25.6	27.7	29.9	34.1	36.3	38.3	25.61	0.05	-	7.79	2.24	19.01
23	13.0	15.0	17.2	21.5	23.6	25.7	27.8	30.0	34.2	36.4	38.5	25.72	0.14	-	7.95	2.25	18.88
Nov. 5	14.6	16.6	18.8	22.9	25.0	27.3	29.3	31.4	35.7	37.7	39.9	27.20	0.07	-	9.58	1.43	18.98
7	...	...	...	22.4	24.4	26.6	28.6	30.8	...	...	...	26.56	0.08	-	8.95	1.46	18.99
9	13.6	15.5	17.7	22.0	24.1	26.2	28.3	30.4	34.6	36.9	39.0	26.21	0.07	-	8.61	1.49	19.02
28	7.3	9.3	11.5	15.8	17.9	20.0	22.1	24.1	28.5	30.5	32.7	19.97	0.09	-	2.71	1.74	18.91

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
ε PEGASI.* δ ₀ = + 9° 17' 21".3												
Oct. 16	37 40.6	5 0	20.0	25.8	5 22.90	5 49.33	16 59.02	-0 38.13	-1.39	+62.69	+0.13	17 22.3
22	37 40.3	5 0	22.4	27.5	5 24.95	5 51.78	16 56.57	0 37.10	1.40	62.54	0.13	20.7
Nov. 5	37 39.9	5 0	22.2	18.2	5 20.20	5 49.67	16 58.68	0 39.47	1.35	62.73	0.13	20.7
7	37 44.2	5 0	30.6	23.3	5 26.95	5 49.81	16 58.54	0 38.72	1.35	63.21	0.13	21.8
28	37 40.9	5 0	35.7	26.8	5 31.25	5 49.74	16 58.61	0 40.53	1.34	63.69	1.40	21.8
δ CAPRICORNI. δ ₀ = - 16° 42' 24".1												
Oct. 16	39 42.6	0 4	10.5	20.2	4 15.35	4 44.08	41 55.73	-1 37.38	-2.64	+62.69	+7.67	42 25.4
22	39 45.1	0 4	18.6	27.0	4 22.80	4 48.33	41 59.98	1 34.77	2.73	62.54	8.09	26.8
Nov. 5	39 48.1	0 4	17.5	17.1	4 17.30	4 41.15	41 52.80	1 40.85	2.33	62.73	9.04	24.2
9	39 45.9	0 4	18.6	18.9	4 18.75	4 44.14	41 55.79	1 39.53	2.33	63.04	9.31	25.3
19	39 45.8	0 4	21.9	21.2	4 21.55	4 42.84	41 54.49	1 40.48	2.26	63.05	9.93	24.2
28	(39 47.3)	0 4	27.6	21.8	4 24.70	4 40.22	41 51.87	1 43.56	2.28	63.69	10.12	23.9
11 CEPHEI.* δ ₀ = + 70° 43' 19".9												
Oct. 8	39 54.4	40 0	49.7	44.7	40 47.20	40 54.37	41 53.98	+0 31.71	+0.93	+60.31	-6.19	43 20.7
31	39 2.4	40 0	22.1	16.3	40 19.20	40 49.75	41 58.60	0 31.18	0.23	62.08	10.39	21.7
Nov. 7	39 53.1	40 0	53.3	37.4	40 45.35	40 53.00	41 55.35	0 32.05	1.01	63.21	11.09	20.5
Dec. 6	39 42.4	40 0	58.0	35.3	40 46.65	40 52.89	41 55.46	0 33.28	1.05	62.31	10.99	21.1
π ² CYGNI.* δ ₀ = + 48 43' 3".7												
Oct. 4	41 38.5	40 0	18.5	16.4	40 17.45	40 45.45	42 2.90	+0 6.35	-0.09	+61.76	-4.35	43 6.6
8	41 30.9	40 0	10.6	5.7	40 8.15	40 43.22	42 5.13	0 6.53	0.21	60.31	4.85	6.9
16	41 31.8	40 0	11.8	12.0	40 11.90	40 46.70	42 1.65	0 6.50	0.21	62.69	6.15	4.5
22	42 29.8	40 1	0.9	59.9	41 0.40	40 43.79	42 4.56	0 6.32	0.03	62.54	6.95	6.4
31	42 25.9	40 0	56.5	51.7	40 54.10	40 42.09	42 6.26	0 6.43	0.04	62.08	7.65	7.2
Nov. 5	41 43.0	40 0	23.3	12.9	40 18.10	40 44.15	42 4.20	0 6.73	0.02	62.73	7.95	5.7
7	42 34.6	40 1	12.0	57.7	41 4.85	40 44.63	42 3.72	0 6.61	0.02	63.21	8.05	5.5
9	42 6.4	40 0	45.4	34.0	40 39.70	40 43.94	42 4.41	0 6.65	0.17	63.04	8.05	6.2
28	42 26.7	40 1	12.8	56.2	41 4.50	40 45.07	42 3.28	0 6.92	0.04	63.69	8.05	5.9
Dec. 6	42 16.2	40 1	10.0	48.2	40 59.10	40 44.08	42 4.27	0 6.86	0.11	62.31	7.35	6.2
14 PEGASI. δ ₀ = + 29° 34' 44".2												
Oct. 8	43 50.9	45 3	15.1	13.8	48 14.45	48 45.07	34 3.28	-0 13.36	-1.23	+60.31	-3.51	34 45.5
22	43 53.1	45 3	18.7	17.9	48 18.30	48 47.17	34 1.18	0 12.94	1.24	62.54	4.80	44.7
23	44 6.2	45 3	33.0	36.2	48 34.60	48 48.45	33 59.90	0 12.75	1.14	63.49	4.75	44.7
31	43 58.0	45 3	22.7	21.0	48 21.85	48 46.42	34 1.93	0 13.14	1.20	62.08	5.25	44.4
Nov. 5	43 52.6	45 3	18.5	10.2	48 14.35	48 45.55	34 2.80	0 13.77	0.96	62.73	5.37	45.4
7	43 49.3	45 3	18.3	6.4	48 12.35	48 46.46	34 1.89	0 13.50	0.99	63.21	5.38	45.2
9	43 55.0	45 3	24.0	16.1	48 20.05	48 47.06	34 1.29	0 13.59	0.92	63.04	5.39	44.4
19	43 54.1	45 3	25.3	15.7	48 20.50	48 44.72	34 3.63	0 13.72	0.83	63.05	5.15	47.0
28	43 53.1	45 3	30.1	17.5	48 23.80	48 46.04	34 2.31	0 14.14	0.81	63.69	4.63	46.4
μ CAPRICORNI. δ ₀ = - 14° 9' 10".6												
Oct. 4	46 2.6	30 1	6.0	14.9	31 10.45	31 38.75	8 50.40	-1 26.29	-2.11	+61.76	+6.22	9 10.8
8	46 8.8	30 1	11.3	18.9	31 15.10	31 36.13	8 47.78	1 28.69	2.15	60.31	6.48	11.8
22	46 6.4	30 1	13.2	21.8	31 17.50	31 42.42	8 54.07	1 25.92	2.15	62.54	7.36	12.2
23	46 10.0	30 1	18.2	28.8	31 23.50	31 43.88	8 55.53	1 24.67	2.19	63.49	7.43	10.5
Nov. 5	46 8.6	30 1	14.2	15.2	31 14.70	31 38.85	8 50.50	1 31.43	2.03	62.73	8.26	13.0
7	46 11.4	30 1	19.4	18.0	31 18.70	31 38.43	8 50.08	1 29.65	2.05	63.21	8.39	10.2
9	46 5.9	30 1	13.3	11.4	31 12.35	31 38.70	8 50.35	1 30.21	2.03	63.04	8.53	11.0
28	46 5.6	30 1	20.2	13.7	31 16.95	31 35.64	8 47.29	1 33.84	2.03	63.69	9.63	9.8

Date. 1871.		Right Ascension Wires.											Seconds of Transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
		1	2	3	4	5	6	7	8	9	10	11						
16 PEGASI.* $a_0 = 21^h 47^m 14^s.31$																		
Oct.	8	7.0	9.2	11.5	16.0	18.3	20.6	22.9	25.1	29.6	31.9	34.3	20.58	+0.01	—	6.97	+0.74	47 14.36
	16	7.6	9.9	12.1	16.6	19.0	21.2	23.4	25.7	30.3	32.5	34.9	21.20	0.02		7.71	0.85	14.36
	23	...	...	...	17.1	19.0	21.3	23.6	25.8	...	...	...	21.36	0.03		7.95	0.96	14.40
	31	...	...	...	17.9	20.2	22.5	24.7	27.0	...	...	...	22.46	0.07		9.21	1.09	14.41
Nov.	7	...	...	...	17.5	19.7	22.0	24.4	26.6	...	...	...	22.04	0.10		8.95	1.20	14.39
	19	4.7	7.0	9.2	13.7	16.0	18.3	20.5	22.7	27.5	29.8	31.9	18.30	0.15		5.50	1.40	14.35
Dec.	5	57.2	59.5	1.7	6.4	8.6	10.9	13.1	15.5	20.0	22.2	24.5	10.87	0.16	+	1.64	1.64	14.31
Pr. XXI. 336. $a_0 = 21^h 48^m 48^s.33$																		
Oct.	8	33.6	36.9	40.7	48.0	52.0	55.4	59.0	2.7	9.9	13.5	17.0	55.33	+0.07	—	6.97	—0.16	48 48.27
	16	...	...	...	48.5	52.3	55.7	59.5	3.1	...	...	...	55.82	0.09		7.71	+0.06	48.26
	22	33.9	37.4	41.0	48.5	52.0	55.6	59.3	2.9	10.2	13.9	17.5	55.65	0.18		7.79	+0.24	48.28
	23	33.8	37.6	41.4	48.6	52.3	55.8	59.6	3.4	10.4	14.0	17.7	55.87	0.12		7.95	+0.26	48.30
	31	...	...	...	49.6	53.1	56.8	0.6	4.2	...	...	...	56.86	0.24		9.21	+0.51	48.40
Nov.	5	35.0	38.7	42.4	49.7	53.4	57.0	0.6	4.3	11.7	15.4	18.8	57.00	0.27		9.58	+0.67	48.36
	7	...	...	...	49.0	52.6	56.1	59.8	3.4	...	...	...	56.18	0.32		8.95	+0.74	48.29
	9	34.0	37.5	41.1	48.3	52.2	55.9	59.4	3.1	10.4	14.0	17.6	55.77	0.28		8.61	+0.81	48.25
μ CEPHEI. $a_0 = 21^h 50^m 35^s.06$																		
Oct.	4	19.7	23.2	27.0	34.5	38.0	41.6	45.3	49.0	56.3	0.1	3.7	41.67	+0.06	—	6.36	—0.29	50 35.08
	8	20.3	23.8	27.5	34.8	38.5	42.2	45.8	49.5	57.0	0.8	4.4	42.24	0.07		6.97	—0.19	35.15
	23	20.8	24.4	28.0	35.4	39.1	42.8	46.4	50.1	57.3	1.1	4.8	42.74	0.12		7.95	+0.24	35.15
	31	20.7	25.1	28.9	37.0	40.0	43.8	47.4	51.0	58.4	2.2	5.7	43.65	0.24		9.21	+0.49	35.17
Nov.	5	21.8	25.5	29.0	36.4	40.1	43.7	47.2	51.1	58.3	2.3	6.0	43.76	0.27		9.58	+0.66	35.11
	9	20.5	24.5	28.1	35.1	38.8	42.6	46.3	49.9	57.3	1.1	4.8	42.64	0.29		8.61	+0.79	35.11
	19	16.9	20.6	24.3	31.6	35.4	39.1	42.7	46.4	53.7	57.8	1.2	39.04	0.49		5.50	+1.12	35.15
	28	13.8	17.5	21.1	28.5	32.1	35.9	39.7	43.3	50.6	54.3	58.1	35.90	0.39		2.71	+1.43	35.01
Dec.	5	9.2	12.8	16.6	24.0	27.6	31.2	34.9	38.5	45.9	49.6	53.3	31.24	0.52	+	1.64	+1.67	35.07
η PISCIS AUSTRALIS. $a_0 = 21^h 53^m 28^s.70$																		
Oct.	4	20.1	22.6	24.8	29.4	31.9	34.2	36.6	40.0	43.6	46.0	48.3	34.32	—0.05	—	6.36	+0.98	53 28.89
	22	21.4	23.6	26.0	30.7	33.1	35.4	37.8	41.2	44.7	47.1	49.4	35.49	0.10		7.79	1.22	28.82
	29	22.8	25.1	27.6	32.4	34.6	36.9	39.3	41.6	46.2	48.9	51.1	36.96	0.08		9.40	1.33	28.81
Nov.	5	23.0	25.3	27.7	32.4	34.8	37.0	39.4	41.7	46.5	48.8	51.2	37.07	0.13		9.58	1.44	28.90
	9	22.1	24.2	26.5	31.3	33.7	36.0	38.4	40.7	45.5	47.8	50.1	36.03	0.14		8.61	1.50	28.78
	12	21.4	23.7	26.0	30.6	33.0	35.4	37.8	40.1	44.9	47.2	49.5	35.42	0.14		8.01	1.55	28.82
	19	18.7	21.0	23.4	28.1	30.6	32.8	35.2	37.5	42.3	44.6	46.9	32.83	0.21		5.50	1.66	28.78
	28	15.6	17.9	20.3	25.3	27.6	29.8	32.1	34.6	39.3	41.6	44.0	29.83	0.18		2.71	1.80	28.74
α AQUARI. $a_0 = 21^h 56^m 41^s.59$																		
Oct.	4	34.8	36.7	38.9	43.0	45.0	47.0	49.1	51.2	55.2	57.3	59.4	47.05	—0.02	—	6.36	+0.92	56 41.59
	8	...	...	...	43.6	45.6	47.7	49.8	51.8	...	...	...	47.70	0.02		6.97	0.96	41.67
	23	36.1	38.1	40.2	44.3	46.3	48.5	50.6	52.4	56.7	58.8	0.8	48.44	0.02		7.95	1.14	41.61
	29	37.6	39.5	41.5	45.7	47.7	49.8	51.8	53.8	57.9	0.0	2.1	49.76	0.02		9.40	1.21	41.55
	31	37.3	39.3	41.3	45.4	47.5	49.5	51.6	53.7	57.7	59.8	1.9	49.54	0.02		9.21	1.24	41.55
Nov.	5	37.5	39.6	41.7	45.8	47.7	50.0	52.0	54.0	58.0	0.2	2.3	49.89	0.02		9.58	1.30	41.59
	9	36.5	38.6	40.6	44.7	46.8	49.0	51.0	53.0	57.1	59.1	1.3	48.88	0.03		8.61	1.36	41.60
	12	36.0	38.0	40.1	44.1	46.2	48.3	50.3	52.5	56.5	58.5	0.6	48.28	0.03		8.01	1.40	41.64
	28	30.4	32.4	34.6	38.6	40.7	42.7	44.6	46.7	50.9	53.0	55.0	42.69	0.03		2.71	1.60	41.55

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean Reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.							
			E.	G.															
16 PEGASI.*													$\delta_0 = + 25^\circ 19' 25''.1$						
Oct. 8	47	2.5	0	3	39.0	39.9	3	39.45	4	1.35	18	47.00	-0	18.05	-1.38	+60.31	-2.72	19	25.2
16	46	57.6	0	3	32.0	36.4	3	34.20	4	2.76	18	45.59	0	17.96	1.39	62.69	3.32	25.6	
23	47	31.2	0	4	14.9	18.3	4	16.60	4	4.74	18	43.61	0	17.23	1.44	63.49	3.72	24.7	
31	46	57.8	0	3	32.7	32.6	3	32.65	4	2.54	18	45.81	0	17.74	1.41	62.08	4.02	24.7	
Nov. 7	47	37.8	0	4	25.4	17.0	4	21.20	4	2.08	18	46.27	0	18.24	1.08	63.21	4.12	26.0	
19	46	57.4	0	3	40.1	32.7	3	36.40	4	1.69	18	46.66	0	18.53	1.00	63.05	4.12	26.1	
Dec. 5	47	33.9	0	4	35.5	22.0	4	28.75	4	0.79	18	47.56	0	18.77	0.98	62.63	2.72	27.7	
Pr. XXI. 336.													$\delta_0 = + 55^\circ 36' 34''.3$						
Oct. 8	48	50.2	45	2	21.0	16.1	47	18.55	47	22.33	35	26.02	+0	13.83	+0.12	+60.31	-5.63	36	34.6
16	48	40.2	45	2	10.2	10.2	47	10.20	47	22.00	35	26.35	0	13.76	0.11	62.69	7.18	35.7	
22	48	24.8	45	1	58.8	56.8	46	57.80	47	21.10	35	27.25	0	13.40	0.04	62.54	8.16	35.0	
23	49	4.1	45	2	27.7	28.2	47	27.95	47	21.75	35	26.60	0	13.20	0.08	63.49	8.31	35.1	
31	49	9.7	45	2	30.4	26.2	47	28.30	47	18.62	35	29.73	0	13.60	0.06	62.08	9.32	36.1	
Nov. 5	48	27.4	45	1	4.3	53.0	46	58.65	47	21.04	35	27.31	0	14.26	0.14	62.73	9.79	34.6	
7	49	13.5	45	2	40.9	27.0	47	33.95	47	20.86	35	27.49	0	13.98	0.26	63.21	9.92	35.0	
9	48	24.3	45	2	3.7	51.4	46	57.55	47	21.38	35	26.97	0	14.07	0.13	63.04	10.05	34.2	
μ CEPHEI.													$\delta_0 = + 56^\circ 0' 20''.5$						
Oct. 4	50	7.3	20	3	13.0	10.8	23	11.90	23	37.65	59	10.70	+0	13.87	-0.31	+61.76	-4.68	0	21.3
8	50	16.5	20	3	19.1	14.8	23	16.95	23	36.19	59	12.16	0	14.27	0.18	60.31	5.53	21.0	
23	50	15.0	20	3	15.3	16.0	23	15.65	23	36.39	59	11.96	0	13.61	0.19	63.49	8.26	20.6	
31	51	11.9	20	3	58.6	52.1	23	55.35	23	34.24	59	14.11	0	14.02	-0.31	62.08	9.28	20.6	
Nov. 5	50	15.5	20	3	20.2	9.4	23	14.80	23	35.99	59	12.36	0	14.70	+0.08	62.73	9.75	20.1	
9	50	28.3	20	3	32.1	20.3	23	26.20	23	36.90	59	11.45	0	14.50	0.23	63.04	10.03	19.2	
19	50	48.8	20	3	48.0	36.2	23	42.10	23	34.76	59	13.59	0	14.65	0.30	63.05	10.34	21.2	
28	50	2.7	20	3	19.9	3.8	23	11.85	23	36.71	59	11.64	0	15.08	0.08	62.69	10.25	19.2	
Dec. 5	50	4.3	20	3	26.2	7.0	23	16.60	23	36.74	59	11.61	0	14.84	+0.23	62.63	10.13	19.2	
η PISCIS AUSTRALIS.													$\delta_0 = - 29^\circ 4' 0''.6$						
Oct. 4	53	10.1	20	4	36.0	43.4	24	39.70	25	8.02	2	19.67	-2	48.48	-2.89	+61.76	+10.22	3	59.1
22	53	12.9	20	4	43.4	50.2	24	46.80	25	13.13	2	24.78	2	47.71	2.93	62.54	12.23	60.5	
29	53	14.7	20	4	38.9	37.7	24	38.30	25	4.39	2	16.04	2	53.78	2.92	61.51	12.93	58.3	
Nov. 5	53	15.1	20	4	41.9	39.3	24	40.60	25	6.34	2	17.99	2	58.63	2.51	62.73	13.55	62.7	
9	53	19.3	20	4	47.8	48.4	24	48.10	25	7.64	2	19.29	2	56.17	2.55	63.04	13.88	61.1	
12	53	12.9	20	4	39.8	35.1	24	37.45	25	3.89	2	15.54	2	59.90	2.48	63.78	14.10	60.0	
19	53	12.8	20	4	44.3	42.3	24	43.30	25	6.70	2	18.35	2	57.90	2.43	63.05	14.55	61.1	
28	(53 50.3)		25	0	24.9	16.3	25	20.60	24	56.61	2	8.26	3	3.36	2.17	63.69	14.98	(55.1)	
σ AQUARI.													$\delta_0 = - 2^\circ 46' 19''.5$						
Oct. 4	56	29.5	5	3	45.8	55.0	8	50.40	9	14.07	46	25.72	-0	57.45	-2.32	+61.76	+3.58	46	20.1
8	57	11.1	5	4	39.9	45.9	9	42.90	9	11.61	46	23.26	0	59.06	2.46	60.31	3.62	20.8	
23	56	25.4	5	3	43.2	52.2	8	47.70	9	18.59	46	30.24	0	56.37	2.31	63.49	3.98	21.4	
29																			
31	56	27.2	5	3	44.6	49.0	8	46.80	9	16.49	46	28.14	0	58.08	2.31	62.08	4.29	22.2	
Nov. 5	56	33.4	5	3	52.8	50.8	8	51.80	9	13.86	46	25.51	1	0.88	1.98	62.73	4.53	21.1	
9	56	29.2	5	3	49.6	47.9	8	48.75	9	15.09	46	26.74	1	0.05	1.96	63.04	4.75	21.0	
12	56	26.9	5	3	48.3	43.7	8	46.00	9	14.61	46	26.26	1	1.33	1.96	63.78	4.91	20.9	
28	56	25.9	5	3	53.5	47.0	8	50.25	9	12.71	46	24.36	1	2.48	1.90	63.69	5.83	19.2	

Date. 1871.		Right Ascension Wires.										Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
		1	2	3	4	5	6	7	8	9	10						11
<i>α AQUARIUS.*</i> $a_0 = 21^h 59^m 12^s.53$																	
Oct.	4	5.9	7.7	9.9	14.0	16.0	18.0	20.1	22.1	26.2	28.3	30.4	18.05	-0.02	- 6.36	+0.87	59 12.54
	8	6.3	8.4	10.4	14.5	16.6	18.7	20.7	22.8	26.8	28.9	31.0	18.64	0.02	6.97	0.93	12.58
	16	7.0	9.0	11.1	15.3	17.4	19.3	21.3	23.4	27.5	29.5	31.7	19.32	0.02	7.79	1.04	12.55
	22	6.9	9.0	11.1	15.2	17.1	19.3	21.4	23.4	27.5	29.7	31.7	19.30	0.02	7.79	1.11	12.60
	29	8.5	10.5	12.6	16.7	18.8	20.7	22.9	25.0	29.0	31.0	33.1	20.80	0.02	9.40	1.17	12.55
	31	8.3	10.3	12.4	16.5	18.5	20.5	22.6	24.7	28.7	30.8	32.9	20.56	0.02	9.21	1.21	12.54
Nov.	5	8.6	10.7	12.6	16.7	18.9	20.8	23.0	25.0	29.0	31.1	33.3	20.88	0.02	9.58	1.28	12.56
	7	7.9	10.0	12.1	15.9	18.1	20.3	22.2	24.2	28.5	30.5	32.5	20.20	0.02	8.95	1.30	12.53
	9	7.6	9.6	11.8	16.0	17.9	19.9	22.0	24.0	28.0	30.1	32.2	19.92	0.02	8.61	1.33	12.62
	19	4.4	6.4	8.4	12.5	14.5	16.7	18.7	20.8	24.8	26.9	29.0	16.64	0.02	5.50	1.46	12.58
	28	1.3	3.3	5.4	9.6	11.6	13.6	15.7	17.6	21.8	23.9	26.0	13.62	0.02	2.71	1.57	12.46
Dec.	5	56.9	59.0	1.0	5.1	7.2	9.3	11.4	13.4	17.5	19.5	21.6	9.26	0.02	+ 1.64	1.65	12.53
<i>ϵ PEGASUS.*</i> $a_0 = 22^h 1^m 3^s.16$																	
Oct.	4	55.3	57.5	59.8	4.3	6.7	8.9	11.2	13.4	18.0	20.3	22.4	8.89	+0.01	- 6.36	+0.66	1 3.20
	8	55.9	58.2	0.4	5.0	7.2	9.5	11.7	13.9	18.6	20.8	23.0	9.47	0.01	6.97	0.71	3.22
	16	56.6	58.9	1.1	5.6	8.0	10.1	12.4	14.7	19.2	21.5	23.7	10.16	0.02	7.79	0.83	3.22
	22	56.5	58.8	0.9	5.6	7.8	10.2	12.3	14.6	19.2	21.4	23.6	10.08	0.05	7.79	0.91	3.25
	29	58.1	0.2	2.6	7.1	9.4	11.6	13.8	16.1	20.6	23.0	25.2	11.61	0.04	9.40	1.01	3.26
	31	57.8	0.0	2.2	6.8	9.0	11.3	13.5	15.7	20.3	22.6	24.9	11.28	0.07	9.21	1.04	3.18
Nov.	5	58.1	0.2	2.6	7.0	9.3	11.6	13.7	16.1	20.6	22.8	25.2	11.56	0.08	9.58	1.12	3.18
	7	57.2	59.5	1.9	6.3	8.7	10.9	13.0	15.4	20.0	22.2	24.4	10.86	0.09	8.95	1.15	3.15
	9	57.0	59.2	1.4	6.0	8.2	10.4	12.7	15.1	19.5	21.8	24.0	10.48	0.08	8.61	1.18	3.13
	12	56.3	58.5	0.8	5.4	7.7	9.8	12.1	14.5	19.0	21.3	23.5	9.90	0.08	8.01	1.23	3.20
	19	53.7	56.0	58.2	...	4.9	7.2	9.4	11.7	16.3	18.6	20.8	7.22	0.14	5.50	1.34	3.20
<i>θ PEGASUS.*</i> $a_0 = 22^h 3^m 44^s.57$																	
Oct.	4	37.7	39.7	41.8	45.9	48.1	50.1	52.1	54.2	58.3	0.4	2.5	50.07	-0.01	- 6.36	+0.85	3 44.55
	8	38.3	40.4	42.5	46.6	48.6	50.7	52.8	54.9	59.0	1.0	3.1	50.72	-0.01	6.97	0.89	44.63
	16	39.0	41.0	43.1	47.3	49.3	51.4	53.5	55.6	59.6	1.7	3.7	51.38	-0.01	7.79	0.98	44.56
	22	39.0	41.1	43.1	47.3	49.3	51.4	53.5	55.5	59.6	1.7	3.8	51.39	-0.00	7.79	1.05	44.65
	29	40.5	42.6	44.7	48.7	50.8	52.9	55.0	57.0	1.2	3.2	5.3	52.90	-0.00	9.40	1.13	44.63
	31	40.3	42.4	44.4	48.5	50.6	52.6	54.7	56.8	0.9	3.0	5.0	52.65	+0.00	9.21	1.15	44.59
Nov.	5	40.5	42.6	44.7	48.9	50.9	52.9	55.0	57.0	1.1	3.2	5.4	52.93	+0.00	9.58	1.23	44.58
	7	39.9	42.0	44.1	48.2	50.3	52.3	54.4	56.4	0.6	2.6	4.7	52.32	+0.01	8.95	1.26	44.64
	9	39.5	41.5	43.6	47.8	49.9	51.9	54.0	56.1	0.3	2.2	4.3	51.92	+0.01	8.61	1.28	44.60
	19	36.3	38.3	40.4	44.4	46.6	48.6	50.7	52.7	56.8	58.9	1.1	48.62	+0.01	5.50	1.41	44.54
<i>ζ CEPHEUS.*</i> $a_0 = 22^h 6^m 24^s.87$																	
Oct.	4	8.7	12.4	16.4	24.1	26.8	31.6	35.5	39.1	46.9	50.8	54.6	31.54	+0.06	- 6.36	-0.42	6 24.82
	8	9.2	12.9	16.8	24.5	28.2	32.1	36.0	38.8	47.4	51.3	55.2	32.04	0.07	6.97	-0.31	24.83
	16	9.7	13.6	17.4	25.1	29.0	32.8	36.6	40.4	48.1	51.9	55.7	32.75	0.10	7.79	-0.10	24.96
	29	11.0	14.7	18.7	26.2	30.0	34.0	37.7	41.4	49.0	53.0	56.9	33.87	0.16	9.40	+0.28	24.91
	31	10.6	14.4	18.2	25.9	29.7	33.5	37.3	41.1	48.9	52.8	56.6	33.54	0.25	9.21	0.35	24.93
Nov.	5	10.8	14.5	18.3	26.0	30.0	33.8	37.6	41.4	49.0	53.0	56.7	33.74	0.29	9.58	0.51	24.96
	7	9.9	13.8	17.6	25.3	29.1	32.9	36.6	40.6	48.3	52.1	55.9	32.92	0.35	8.95	0.58	24.90
	9	9.6	13.3	17.1	24.7	28.7	32.5	36.4	40.3	47.7	51.7	55.6	32.51	0.31	8.61	0.65	24.86
	12	8.8	12.6	16.5	24.0	27.9	31.7	35.6	39.6	...	...	...	31.78	0.32	8.01	0.75	24.84
	19	6.1	9.9	13.6	21.3	25.2	29.0	32.8	36.7	44.3	48.1	51.9	28.99	0.52	5.50	0.99	25.00
	22	5.0	9.0	12.8	20.4	24.2	28.0	31.8	35.7	43.4	47.3	51.1	28.06	0.37	4.64	1.10	24.89
Dec.	5	58.6	2.0	4.9	13.6	17.5	21.2	25.1	28.9	36.7	40.3	44.3	21.19	0.56	+ 1.64	1.53	24.92

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.	
			E.	G.*									
α AQUARI.* $\delta_0 = - 0^\circ 56' 26''.7$													
Oct.	4	m. s.	' "	' "	' "	' "	' "	' "	' "	' "	' "	' "	
	8	58 57.9	15 3	53.0	60.6	18 56.80	19 23.83	56 35.48	-0 53.92	-2.28	+61.76	+3.23	56 26.7
	16	58 57.0	15 3	50.9	56.1	18 53.50	19 22.41	56 34.06	0 55.42	2.28	60.31	3.23	28.2
	22	58 59.3	15 3	53.7	60.6	18 57.15	19 23.92	56 34.57	0 55.16	2.24	61.01	3.33	27.6
	29	58 59.8	15 3	58.1	63.1	19 0.60	19 26.70	56 38.35	0 53.65	2.30	62.54	3.43	28.3
	31	59 1.8	15 3	56.1	58.7	18 57.40	19 22.83	56 34.48	0 55.60	2.29	61.51	3.73	27.1
Nov.	5	58 59.6	15 3	54.8	59.0	18 56.90	19 25.01	56 36.66	0 54.51	2.28	62.08	3.83	27.5
	7	58 58.3	15 3	55.2	53.3	18 54.25	19 24.23	56 35.88	0 57.15	1.93	62.73	4.03	28.2
	9	58 57.4	15 3	57.4	52.0	18 54.70	19 25.22	56 36.87	0 56.02	1.93	63.21	4.03	27.6
	19	59 2.2	15 4	2.5	0.3	19 1.40	19 25.09	56 36.74	0 56.35	1.94	63.04	4.13	27.9
	28	59 39.1	15 4	56.1	53.3	19 54.70	19 24.58	56 36.23	0 56.92	1.91	63.05	4.73	27.3
Dec.	5	58 56.7	15 4	5.1	57.1	19 1.10	19 23.72	56 35.37	0 58.61	1.78	63.09	5.43	27.2
.....													
ι PEGASI.* $\delta_0 = + 24^\circ 43' 14''.7$													
Oct.	4	0 49.9	35 4	48.6	50.2	39 49.40	40 12.51	42 35.84	-0 18.23	-1.63	+61.76	-1.56	43 16.2
	8	0 46.1	35 4	44.7	44.9	39 44.80	40 13.26	42 35.09	0 18.73	1.65	60.31	1.96	13.1
	16	0 48.8	35 4	45.5	48.6	39 47.05	40 13.07	42 35.28	0 18.64	1.59	61.01	2.76	13.3
	22	0 50.6	35 4	50.3	51.8	39 51.05	40 14.76	42 33.59	0 18.13	1.64	62.54	3.16	13.2
	29	0 51.6	35 4	49.3	45.8	39 47.55	40 11.87	42 36.48	0 18.79	1.63	61.51	3.56	14.0
	31	0 52.2	35 4	51.3	49.7	39 50.50	40 13.72	42 34.63	0 18.43	1.19	62.08	3.66	13.4
Nov.	5	0 51.8	35 4	52.2	44.3	39 48.25	40 12.33	42 36.02	0 19.32	1.19	62.73	3.76	14.5
	7	0 50.6	35 4	53.4	43.9	39 48.65	40 13.33	42 35.02	0 18.93	1.19	63.21	3.76	14.3
	9	0 51.6	35 4	51.2	44.7	39 47.95	40 10.94	42 37.41	0 19.04	1.19	63.04	3.76	16.5
	12	1 27.8	40 0	41.0	30.4	40 35.70	40 13.93	42 34.42	0 19.45	0.85	63.78	3.76	14.1
	19	0 47.9	35 4	52.9	45.7	39 49.30	40 12.77	42 35.58	0 19.23	1.10	63.05	3.56	14.7
.....													
θ PEGASI.* $\delta_0 = + 5^\circ 34' 7''.9$													
Oct.	4	4 15.7	45 4	29.3	34.9	49 32.10	48 57.99	33 50.36	-0 42.83	-2.03	+61.76	+1.86	34 9.1
	8	3 32.1	45 3	29.2	33.9	48 31.55	48 56.33	33 52.02	0 44.01	2.03	60.31	1.86	8.2
	16	3 30.7	45 3	26.2	32.5	48 29.35	48 56.93	33 51.42	0 43.81	2.00	61.01	1.86	8.5
	22	3 29.9	45 3	27.9	33.7	48 30.80	48 59.45	33 48.90	0 42.61	2.03	62.54	1.76	8.6
	29	3 33.0	45 3	28.2	29.5	48 28.85	48 55.36	33 52.99	0 44.18	2.03	61.51	1.76	10.0
	31	3 44.7	45 3	47.7	48.8	48 48.25	48 58.90	33 49.45	0 43.30	2.08	62.08	1.86	8.0
Nov.	5	3 35.4	45 3	36.3	31.4	48 33.85	48 57.17	33 51.18	0 45.40	1.71	62.73	2.06	8.9
	7	3 34.8	45 3	37.2	30.0	48 33.60	48 56.92	33 51.43	0 44.49	1.71	63.21	2.06	10.5
	9	3 34.6	45 3	36.4	33.0	48 34.70	48 57.75	33 50.60	0 44.75	1.71	63.04	2.16	9.3
	19	3 32.4	45 3	38.9	33.1	48 36.00	48 57.58	33 50.77	0 45.21	1.65	63.05	2.66	9.6
.....													
ζ CEPHEI.* $\delta_0 = + 57^\circ 34' 14''.6$													
Oct.	4	5 56.6	45 4	20.6	19.7	49 20.15	49 45.21	33 3.14	+0 15.53	-0.42	+61.76	-3.47	34 16.5
	8	5 57.0	45 4	22.5	18.3	49 20.40	49 45.53	33 2.82	0 15.98	0.42	60.31	4.47	14.2
	16	5 55.9	45 4	19.1	17.0	49 18.05	49 44.47	33 3.88	0 15.91	0.43	61.01	6.17	14.2
	29	5 55.9	45 4	19.0	12.3	49 15.65	49 42.93	33 5.42	0 16.04	0.46	61.51	8.47	14.0
	31	5 51.1	45 4	14.0	8.9	49 11.45	49 41.89	33 6.46	0 15.72	0.54	62.08	8.67	15.0
Nov.	5	5 56.5	45 4	23.0	11.8	49 17.40	49 44.11	33 4.24	0 16.49	0.08	62.73	9.27	14.1
	7	5 57.4	45 4	25.2	11.1	49 18.15	49 43.64	33 4.71	0 16.15	0.05	63.21	9.47	14.5
	9	5 56.2	45 4	23.1	11.5	49 17.30	49 43.36	33 4.99	0 16.25	0.06	63.04	9.57	14.6
	12	5 52.9	45 4	22.9	8.0	49 15.45	49 43.38	33 4.97	0 16.61	-0.11	63.78	9.97	15.3
	19	6 7.1	45 4	33.8	21.6	49 27.70	49 43.42	33 4.93	0 16.42	+0.23	63.05	9.97	14.7
	22	5 54.6	45 4	23.3	13.2	49 18.25	49 42.30	33 6.05	0 15.99	+0.15	62.56	9.87	14.9
Dec.	5	5 49.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Date. 1871.		Right Ascension Wires.										Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.		
		1	2	3	4	5	6	7	8	9	10						11	
Pr. XXII. 36. $a_0 = 22^h 8^m 23^s.29$																		
Oct.	8	13.9	16.5	19.1	24.4	27.1	29.7	32.4	35.0	40.3	42.9	45.7	29.73	+0.03	—	6.97	+0.41	m. s. 8 23.20
	22	14.3	16.9	19.7	24.9	27.6	30.3	33.0	35.6	40.8	43.6	46.2	30.26	0.10	—	7.79	0.64	23.21
	29	15.9	18.3	21.1	26.4	29.1	31.7	34.3	37.0	42.3	45.1	47.6	31.72	0.08	—	9.40	0.77	23.17
	31	15.7	18.3	20.8	26.2	28.9	31.4	34.1	36.8	42.0	44.7	47.4	31.48	0.13	—	9.21	0.81	23.21
Nov.	5	15.9	18.4	21.1	26.4	29.0	31.7	34.4	37.0	42.3	44.9	47.5	31.69	0.14	—	9.58	0.91	23.16
	9	14.8	17.3	20.0	25.4	28.0	30.6	33.2	35.8	41.2	43.8	46.5	30.60	0.15	—	8.61	0.99	23.13
	19	11.4	14.1	16.6	21.9	24.6	27.4	29.8	32.7	38.0	40.7	43.2	27.31	0.26	—	5.50	1.19	23.26
	22	10.5	13.0	15.7	20.9	23.6	26.3	29.1	31.7	36.9	39.8	42.2	26.34	0.18	—	4.64	1.25	23.13
θ AQUARIUS.* $a_0 = 22^h 10^m 4^s.75$																		
Oct.	4	57.8	59.8	1.9	6.0	8.1	10.2	12.4	14.4	18.6	20.7	22.8	10.24	—0.02	—	6.36	+0.86	10 4.72
	8	58.4	0.5	2.5	6.7	8.7	10.8	12.9	15.0	19.2	21.2	23.3	10.84	0.02	—	6.97	0.90	4.75
	16	59.0	1.0	3.0	7.4	9.4	11.6	13.7	15.8	19.8	22.0	24.0	11.52	0.03	—	7.79	0.99	4.69
	22	59.0	1.0	3.2	7.2	9.3	11.5	13.5	15.6	19.7	21.9	24.0	11.44	0.04	—	7.79	1.05	4.66
	29	...	...	...	8.9	10.9	12.9	15.0	17.0	...	...	...	12.94	0.03	—	9.40	1.13	4.64
	31	0.4	2.3	4.6	8.6	10.7	12.8	14.9	16.9	21.1	23.1	25.2	12.78	0.04	—	9.21	1.16	4.69
Nov.	5	0.7	2.7	4.8	8.8	11.0	13.2	15.1	17.3	21.5	23.5	25.6	13.11	0.05	—	9.58	1.23	4.71
	9	59.5	1.6	3.6	7.9	10.0	12.0	14.1	16.2	20.4	22.4	24.5	12.02	0.05	—	8.61	1.29	4.65
	19	...	...	...	4.6	6.7	8.8	10.8	13.0	...	...	...	8.78	0.07	—	5.50	1.41	4.62
	22	55.7	57.5	59.5	3.8	5.8	8.0	10.0	12.1	16.2	18.3	20.4	7.94	0.05	—	4.64	1.46	4.71
ρ AQUARIUS. $a_0 = 22^h 13^m 27^s.69$																		
Oct.	8	21.3	23.3	25.4	29.6	31.7	33.7	35.8	37.8	42.1	44.2	46.3	33.74	—0.03	—	6.91	+0.92	13 27.72
	16	22.0	24.2	26.3	30.5	32.5	34.6	36.7	38.7	42.8	44.9	47.0	34.56	0.03	—	7.79	1.00	27.74
	29	23.7	25.7	27.7	32.0	34.0	36.0	38.0	40.2	44.4	46.5	48.6	36.07	0.03	—	9.40	1.15	27.79
	31	23.4	25.4	27.5	31.7	33.8	35.8	38.0	40.0	44.1	46.3	48.4	35.85	0.04	—	9.21	1.17	27.77
Nov.	7	23.0	25.1	27.2	31.4	33.4	35.5	37.6	39.7	43.8	46.0	47.9	35.51	0.05	—	8.95	1.26	27.77
	9	22.7	24.7	26.8	31.0	33.0	35.0	37.1	39.2	43.3	45.5	47.6	35.08	0.05	—	8.61	1.29	27.71
	12	...	...	...	30.4	32.5	34.6	36.5	38.7	...	...	...	34.54	0.05	—	8.01	1.33	27.81
	22	18.5	20.5	22.6	26.9	29.0	31.1	33.1	35.1	39.2	41.3	43.4	30.97	0.05	—	4.64	1.45	27.73
	23	18.3	20.4	22.6	26.7	28.9	31.0	32.8	34.9	39.2	41.3	43.2	30.84	0.04	—	4.49	1.46	27.77
γ AQUARIUS.* $a_0 = 22^h 15^m 2^s.66$																		
Oct.	8	56.4	58.5	0.5	4.6	6.7	8.8	10.9	12.9	17.0	19.0	21.0	8.75	—0.02	—	6.91	+0.89	15 2.71
	16	...	...	...	5.4	7.4	9.5	11.6	13.5	...	...	...	9.48	0.02	—	7.79	0.98	2.65
	31	...	...	...	...	8.6	10.7	12.9	15.0	19.0	21.0	23.1	10.76	0.02	—	9.21	1.14	2.67
Nov.	7	58.0	0.1	2.1	6.2	8.3	10.3	12.4	14.5	18.7	20.7	22.8	10.37	0.02	—	8.95	1.24	2.64
	19	54.5	56.7	58.7	2.7	4.8	6.8	8.9	10.9	15.0	17.1	19.1	6.84	0.02	—	5.50	1.39	2.71
	22	53.6	55.7	57.8	1.7	3.8	6.0	8.0	10.0	14.2	16.3	18.3	5.94	0.02	—	4.64	1.43	2.71
	23	...	...	...	1.4	3.5	5.5	7.7	9.8	...	...	...	5.58	0.02	—	4.49	1.44	2.51
	28	51.6	53.6	55.6	59.8	1.9	3.9	6.0	8.1	12.1	14.2	16.2	3.91	0.02	—	2.71	1.50	2.68
B. A. C. 7803. $a_0 = 22^h 16^m 34^s.11$																		
Oct.	29	25.9	28.7	31.4	37.0	39.9	42.7	45.5	48.4	54.0	56.7	59.6	42.71	+0.09	—	9.40	+0.68	16 34.08
	31	25.5	28.3	31.2	36.8	39.7	42.6	45.3	48.0	53.7	56.6	59.3	42.45	0.15	—	9.21	0.71	34.10
Nov.	9	...	27.4	30.4	36.0	38.9	41.5	44.5	47.1	52.8	55.6	58.6	41.56	0.18	—	8.61	0.90	34.03
	19	21.3	24.3	27.1	32.6	35.3	38.2	41.1	43.9	49.5	52.4	55.1	38.25	0.31	—	5.50	1.12	34.18
	22	20.6	23.3	26.1	31.9	34.5	37.4	40.1	43.0	48.6	51.3	54.3	37.37	0.22	—	4.64	1.19	34.14
	28	18.4	21.2	24.2	29.7	32.4	35.2	38.0	40.8	46.5	49.3	52.2	35.26	0.24	—	2.70	1.33	34.13
Dec.	5	13.8	16.6	19.4	25.0	27.9	30.7	33.5	36.4	42.0	44.9	47.5	30.70	0.33	+	1.65	1.48	34.16
	6	13.0	15.6	18.5	24.1	27.0	29.7	32.5	35.6	40.9	43.8	46.6	29.75	0.40	+	2.47	1.50	34.12

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.							
			E.	G.															
Pr. XXII. 36.													$\delta_0 = + 39^\circ 4' 48''.2$						
Oct. 8	8	5.2	15	3	27.0	24.8	18	25.90	18	51.36	3	56.99	-0	3.40	-0.88	+60.31	-3.40	4	49.6
22	8	4.1	15	3	24.0	23.6	18	23.80	18	51.02	3	57.33	0	3.29	0.91	62.54	5.42		50.2
29	8	14.2	15	3	34.7	30.4	18	32.55	18	50.63	3	57.72	0	3.40	0.81	61.51	6.16		48.9
31	8	23.3	15	3	44.0	40.8	18	42.40	18	51.13	3	57.22	0	3.33	0.79	62.08	6.33		48.8
Nov. 5	8	0.9	15	3	23.1	15.6	18	19.35	18	51.36	3	56.99	0	3.50	0.66	62.73	6.67		48.9
9	8	7.1	15	3	31.3	22.1	18	26.70	18	51.12	3	57.23	0	3.44	0.57	63.04	6.87		49.4
19	8	41.6	15	4	9.4	59.8	19	4.60	18	49.74	3	58.61	0	3.48	0.44	63.05	7.02		50.7
22	8	4.1	15	3	31.6	23.2	18	27.40	18	50.48	3	57.87	0	3.38	0.48	62.56	6.97		49.6
θ AQUARIUS.*													$\delta_0 = - 8^\circ 25' 11''.7$						
Oct. 4	9	58.2	45	2	33.9	44.0	47	38.95	47	54.84	25	6.49	-1	10.10	-2.26	+61.76	+5.07	25	12.0
8	9	53.3	45	2	25.8	32.5	47	29.15	47	52.33	25	3.98	1	12.05	2.24	60.31	5.17		12.8
16	9	51.6	45	2	22.3	30.7	47	26.50	47	52.85	25	4.50	1	11.71	2.18	61.01	5.57		11.8
22	9	47.7	45	2	21.2	29.5	47	25.35	47	56.74	25	8.39	1	9.75	2.20	62.54	5.77		12.0
29	10	25.4	45	3	7.3	11.7	48	9.50	47	52.95	25	4.60	1	12.31	2.35	61.51	6.17		11.6
31	10	6.8	45	2	45.3	50.3	47	47.80	47	55.74	25	7.39	1	10.90	2.31	62.08	6.37		12.1
Nov. 5	9	51.3	45	2	25.7	23.2	47	24.45	47	53.32	25	4.97	1	14.34	1.99	62.73	6.57		12.0
9	9	57.2	45	2	35.5	34.2	47	34.85	47	54.45	25	6.10	1	13.24	2.02	63.04	6.87		11.5
19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
22	9	49.5	45	2	30.8	31.1	47	30.95	47	55.32	25	6.97	1	12.07	1.96	63.05	7.77		10.2
ρ AQUARIUS.													$\delta_0 = - 8^\circ 27' 45''.6$						
Oct. 8	13	10.0	45	4	53.0	2.1	49	57.55	50	28.80	27	40.45	-1	12.15	-2.63	+60.31	+5.25	27	49.7
16	13	15.5	50	0	0.7	9.3	50	5.00	50	30.29	27	41.94	1	11.82	1.82	61.01	5.59		49.0
29	13	17.4	50	0	3.8	5.9	50	4.85	50	29.61	27	41.26	1	12.41	1.81	61.51	6.29		47.7
31	13	12.5	50	0	58.2	5.2	50	1.70	50	32.55	27	44.20	1	11.00	1.79	62.08	6.40		48.5
Nov. 7	13	20.1	50	0	11.9	8.7	50	10.30	50	30.69	27	42.34	1	12.93	1.83	63.21	6.83		47.1
9	13	21.5	50	0	15.2	15.0	50	15.10	50	33.11	27	44.76	1	13.35	1.83	63.04	6.96		49.9
12	13	41.0	50	0	41.4	37.0	50	39.20	50	30.59	27	42.24	1	14.97	1.88	63.78	7.16		48.2
22	13	14.7	50	0	9.0	10.3	50	9.65	50	31.23	27	42.88	1	12.16	1.82	62.56	7.79		46.5
23	13	7.1	45	4	59.8	58.1	49	58.95	50	30.33	27	41.98	1	15.30	1.79	61.64	7.86		49.6
γ AQUARIUS.*													$\delta_0 = - 2^\circ 1' 53''.3$						
Oct. 8	15	16.2	20	4	53.9	1.7	24	57.80	24	47.77	1	59.42	-0	57.61	-2.49	+61.41	+3.70	1	54.4
16	15	26.9	25	0	6.7	13.0	25	9.85	24	46.57	1	58.22	0	57.35	1.67	61.01	3.90		52.3
31	15	31.2	25	0	16.9	21.2	25	19.05	24	51.76	2	3.41	0	56.69	1.70	62.08	4.40		55.3
Nov. 7	14	52.6	20	4	28.9	24.7	24	26.80	24	50.61	2	2.26	0	58.24	2.00	63.21	4.70		54.6
19	14	48.9	20	4	27.1	25.0	24	26.05	24	50.00	2	1.65	0	59.17	1.91	63.05	5.40		54.3
22	14	51.5	20	4	31.7	31.2	24	31.45	24	50.71	2	2.36	0	57.63	1.92	62.56	5.60		53.7
23	(15 15.2)		20	4	49.6	48.0	24	48.80	24	35.96	1	47.61	1	0.12	1.94	61.64	5.70		(42.3)
28	14	51.0	20	4	33.8	26.7	24	30.25	24	47.51	1	59.16	1	0.93	1.92	63.69	5.90		52.4
B. A. C. 7803.													$\delta_0 = + 43^\circ 6' 3''.3$						
Oct. 29	16	19.9	15	2	21.3	16.3	17	18.80	17	41.09	5	7.26	+0	1.77	-0.49	+61.51	-6.50	6	3.5
31	17	7.1	15	3	7.6	4.8	18	6.20	17	42.06	5	6.29	0	1.74	0.66	62.08	6.71		2.7
Nov. 9	16	8.4	15	3	13.8	3.8	18	8.80	17	42.60	5	5.75	0	1.80	0.51	63.04	7.39		2.7
19	16	31.6	15	2	40.2	31.6	17	35.90	17	42.36	5	5.99	0	1.82	0.12	63.05	7.72		3.0
22	16	33.8	15	2	41.7	33.0	17	37.35	17	40.87	5	7.48	0	1.77	0.12	62.56	7.72		4.0
28	17	2.1	15	3	16.7	2.9	18	9.80	17	43.60	5	4.75	0	1.87	0.35	63.69	7.69		2.3
Dec. 5	16	56.9	15	3	13.6	5.0	18	9.30	17	43.49	5	4.86	0	1.84	0.28	62.63	7.48		1.6
6	16	58.3	15	3	18.4	0.0	18	9.20	17	41.24	5	7.11	0	1.86	0.31	62.31	7.46		3.5

Date. 1871.		Right Ascension Wires.										Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.		
		1	2	3	4	5	6	7	8	9	10	11						
3 LACERTÆ.* $a_0 = 22^h 18^m 31^s.75$																		
Oct.	4	18.4	21.5	24.9	31.4	34.8	38.2	41.4	44.9	51.3	54.8	58.0	38.14	+0.05	—	6.36	—0.08	18 31.75
	15	19.3	22.6	25.8	32.5	35.7	39.0	42.5	45.7	52.3	55.6	58.9	39.08	0.08		7.49	+0.12	31.79
	23	19.5	22.8	26.2	32.8	36.0	39.4	42.8	46.0	52.6	55.9	59.1	39.37	0.10		7.95	+0.29	31.81
	31	...	...	...	33.6	37.0	40.3	43.5	46.9	...	...	...	40.26	0.20		9.21	+0.50	31.75
Nov.	9	...	...	...	32.8	36.0	39.5	42.7	46.0	...	...	...	39.40	0.24		8.61	+0.73	31.76
	13	18.1	21.4	24.6	31.5	34.7	38.0	41.2	44.7	51.2	54.6	57.9	37.99	0.25		7.39	+0.84	31.69
	22	15.3	18.6	21.8	28.4	31.8	34.8	38.3	41.5	48.1	51.6	54.8	35.00	0.29		4.64	+1.08	31.73
	28	13.3	16.3	19.7	26.2	29.7	32.8	36.0	39.4	46.0	49.5	52.8	32.88	0.33		2.70	+1.24	31.75
Dec.	5	...	...	...	21.6	25.0	28.3	31.5	34.9	...	...	...	28.26	0.44		1.65	+1.44	31.79
π AQUARI. $a_0 = 22^h 18^m 44^s.37$																		
Oct.	16	38.9	41.0	42.9	47.2	49.2	51.2	53.3	55.4	59.4	1.5	3.5	51.23	—0.01	—	7.79	+0.94	18 44.37
	29	40.4	42.4	44.6	48.6	50.6	52.8	54.8	56.8	1.0	3.0	5.0	52.73	0.01		9.40	1.08	44.40
Nov.	12	38.9	40.9	43.0	47.0	49.1	51.1	53.2	55.3	59.4	1.4	3.5	51.16	0.01		8.01	1.26	44.40
	19	36.4	38.3	40.3	44.5	46.5	48.6	50.6	52.7	56.8	58.9	1.0	48.60	0.01		5.50	1.34	44.43
	23	35.0	37.1	39.1	43.4	45.5	47.4	49.5	51.6	55.7	57.7	59.8	47.44	0.01		4.49	1.39	44.33
ζ AQUARI. $a_0 = 22^h 22^m 14^s.30$																		
Oct.	4	7.6	9.7	11.7	15.9	18.9	20.0	22.0	24.1	28.2	30.2	32.3	20.05	—0.01	—	6.36	+0.82	22 14.50
	8	8.2	10.3	12.4	16.5	18.5	20.5	22.6	24.6	28.7	30.8	32.8	20.54	0.02		6.91	0.86	14.47
	9	8.3	10.3	12.3	16.5	18.5	20.6	22.6	24.7	28.7	30.9	32.9	20.57	0.01		6.98	0.87	14.45
	29	10.4	12.5	14.6	18.5	20.7	22.7	24.8	26.9	30.9	33.0	35.0	22.72	0.02		9.40	1.08	14.38
Nov.	7	10.0	12.0	14.1	18.1	20.1	22.1	24.2	26.4	30.4	32.5	34.5	22.22	0.02		8.95	1.19	14.44
	12	8.9	11.0	12.9	17.1	19.2	21.2	23.2	25.4	29.5	31.5	33.6	21.23	0.02		8.00	1.25	14.45
	13	8.2	10.1	12.4	16.5	18.5	20.6	22.7	24.6	28.7	30.8	33.0	20.55	0.02		7.39	1.26	14.40
	19	6.4	8.5	10.5	14.6	16.7	18.7	20.7	22.8	26.9	29.0	31.1	18.73	0.02		5.50	1.34	14.55
	28	3.4	5.4	7.6	11.6	13.7	15.6	17.7	19.8	24.1	26.1	28.2	15.74	0.02		2.70	1.45	14.47
Dec.	6	58.2	0.3	2.5	6.5	8.4	10.5	12.6	14.6	18.9	20.8	22.9	10.56	0.02		2.47	1.66	14.67
9 H. DRACONIS L. C.* $a_0 = 10^h 24^m 9^s.04$																		
Oct.	8	...	...	...	51.6	0.3	9.0	17.7	26.5	...	...	...	9.02	—0.20	—	6.91	+6.84	24 8.75
	9	16.3	25.0	34.5	51.7	0.5	8.8	17.9	26.7	44.3	52.7	1.4	9.07	0.18		6.98	6.77	8.68
	31	20.7	30.0	38.8	56.0	5.1	13.3	22.3	30.7	48.6	57.4	6.0	13.54	0.68		9.21	4.90	8.55
Nov.	9	21.8	30.5	39.6	56.9	5.7	14.1	22.8	31.7	49.0	57.9	6.7	14.24	0.81		8.61	4.01	8.83
	19	20.3	29.1	38.2	55.2	3.8	12.6	21.0	29.6	47.4	56.2	4.9	12.57	1.38		5.50	2.94	8.63
	22	19.5	28.1	36.6	54.1	3.1	12.1	20.2	29.0	46.2	55.1	4.1	11.64	0.98		4.64	2.62	8.64
	23	19.2	27.6	36.1	54.0	2.8	11.4	20.2	29.5	46.4	55.1	4.0	11.48	0.68		4.49	2.51	8.82
β PISCIS AUSTRALIS. $a_0 = 22^h 24^m 13^s.28$																		
Oct.	4	...	...	...	14.1	16.5	19.0	21.4	23.9	...	...	...	18.98	—0.06	—	6.36	+0.77	24 13.33
	29	...	...	...	17.0	19.4	21.8	24.3	26.7	...	...	...	21.84	0.10		9.40	1.08	13.42
Nov.	12	...	...	...	15.2	17.9	20.4	22.7	25.3	...	...	...	20.30	0.16		8.01	1.31	13.44
	13	...	...	...	14.9	17.2	19.8	22.3	24.7	...	...	...	19.78	0.16		7.39	1.32	13.55
	25	...	...	...	10.6	13.4	15.6	18.3	20.8	...	...	...	15.74	0.16		3.70	1.52	13.40
	28	0.1	2.5	4.9	10.0	12.4	14.6	17.1	19.7	24.8	27.0	29.5	14.78	0.20		2.70	1.57	13.45
Dec.	5	55.9	58.2	0.6	5.6	7.9	10.5	12.6	15.5	20.4	22.9	25.2	10.48	0.26	+	1.65	1.69	13.56

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.		
			E.	G.										
3 LACERTÆ.*													$\delta_0 = + 51^\circ 35' 17''.7$	
Oct.	4	m. s.	' "	' "	' "	' "	' "	' "	' "	' "	' "	' "		
	4	18 11.6	45 3	15.5 16.3	48 15.90	48 37.94	34 10.41	+0 9.29	-0.37	+61.76	-2.88	35 18.2		
	15	18 53.5	45 3	48.9 50.4	48 49.65	48 37.67	34 10.68	0 9.46	0.30	61.01	5.18	15.7		
	23	18 1.9	45 3	4.1 5.6	48 4.85	48 36.05	34 12.30	0 9.12	0.54	63.49	6.58	17.8		
	31	18 21.1	45 3	19.6 15.3	48 17.45	48 33.42	34 14.93	0 9.40	0.30	62.08	7.78	18.3		
Nov.	9	18 54.6	45 3	52.0 42.5	48 47.25	48 34.61	34 13.74	0 9.71	0.00	63.04	8.68	17.8		
	13	18 11.1	45 3	18.6 5.6	48 12.10	48 34.48	34 13.87	0 9.84	0.07	63.10	8.88	17.9		
	22	18 3.7	45 3	16.7 3.0	48 9.85	48 35.89	34 12.46	0 9.55	0.09	62.56	9.28	16.3		
	28	18 29.2	45 3	40.3 24.2	48 32.25	48 35.33	34 13.02	0 10.09	0.15	63.69	9.28	17.7		
Dec.	5	18 44.8	45 3	46.6 49.0	48 47.80	48 34.07	34 14.28	0 9.92	0.14	62.63	9.08	17.9		
π AQUARI.													$\delta_0 = + 0^\circ 43' 42''.2$	
Oct.	16	18 31.7	35 3	47.7 54.1	38 50.90	39 16.87	43 31.48	-0 52.08	-2.18	+61.01	+3.24	43 41.5		
	29	19 13.6	35 4	42.6 43.0	39 42.80	39 14.83	43 33.52	0 52.50	2.37	61.50	3.50	43.6		
Nov.	12	18 32.9	35 3	55.7 49.8	38 52.75	39 17.25	43 31.10	0 54.37	1.88	63.78	4.08	42.7		
	19	18 33.8	35 3	58.1 55.2	38 56.65	39 16.46	43 31.89	0 53.72	1.80	63.05	4.46	43.9		
	23	18 33.7	35 3	59.6 54.8	38 57.20	39 15.54	43 32.81	0 54.63	1.80	61.64	4.70	42.7		
ζ AQUARI.													$\delta_0 = - 0^\circ 40' 26''.0$	
Oct.	4	21 57.1	0 2	51.2 60.0	2 55.60	3 26.39	40 38.04	-0 53.46	-2.10	+61.76	+3.51	40 28.3		
	8	22 1.5	0 2	55.5 62.2	2 58.85	3 24.28	40 35.93	0 54.95	2.11	61.41	3.55	28.0		
	9	21 59.5	0 2	55.0 61.5	2 58.25	3 26.49	40 38.14	0 53.75	2.12	61.62	3.56	28.8		
	29	22 4.5	0 3	56.0 58.3	2 57.15	3 21.52	40 33.17	0 55.16	2.12	61.51	3.97	25.0		
Nov.	7	22 4.4	0 3	2.7 58.0	3 0.35	3 24.18	40 35.83	0 55.55	1.85	63.21	4.34	25.7		
	12	22 2.5	0 3	2.8 58.2	3 0.50	3 25.53	40 37.18	0 57.12	1.85	63.78	4.59	27.8		
	13	21 58.2	0 2	56.5 51.6	2 54.05	3 24.03	40 35.68	0 56.70	1.84	63.10	4.64	26.5		
	19	22 0.0	0 3	2.2 57.7	2 59.95	3 24.98	40 36.63	0 56.44	1.79	63.05	4.98	26.8		
	28	21 53.5	0 2	57.8 49.0	2 53.40	3 23.12	40 34.77	0 58.11	1.78	63.69	5.58	25.4		
Dec.	6	22 5.9	0 3	23.2 11.3	3 17.25	3 23.54	40 35.19	0 57.65	1.74	62.31	6.21	26.1		
9 H. DRACONIS L. C.*													$\delta_0 = + 103^\circ 37' 44''.7$	
Oct.	8	23 49.2	45 3	3.8 55.8	47 59.80	47 53.56	34 54.79	+1 46.83	+1.61	+61.41	+1.26	37 45.9		
	9	23 42.1	45 3	7.6 59.0	48 3.30	47 54.79	34 53.56	1 44.50	1.68	61.62	0.96	42.3		
	31	22 51.7	45 3	17.4 8.6	48 13.00	47 47.22	35 1.13	1 45.16	2.37	62.08	-5.44	45.3		
Nov.	9	25 27.3	45 2	36.2 19.8	47 28.00	47 51.04	34 57.31	1 48.60	1.90	63.04	7.34	43.5		
	19	24 37.2	45 2	50.1 32.2	47 41.15	47 48.90	35 0.55	1 49.73	2.07	63.05	9.04	46.4		
	22	22 20.5	45 3	28.7 14.3	48 21.50	47 46.48	35 1.87	1 46.86	3.41	62.56	9.54	45.2		
	23	23 15.6	45 3	16.2 1.1	48 8.65	47 51.04	34 57.31	1 51.50	2.28	61.64	9.64	43.1		
β PISCIS AUSTRALIS.													$\delta_0 = - 33^\circ 0' 6''.3$	
Oct.	4	24 34.1	20 0	40.0 49.3	20 44.65	20 27.70	57 39.35	-3 35.35	-2.35	+61.76	+10.82	0 4.5		
	29	24 31.1	20 0	31.9 35.0	20 33.45	20 23.02	57 34.67	3 42.23	2.34	61.51	14.20	3.5		
Nov.	12	24 43.7	20 0	49.3 43.2	20 46.25	20 19.98	57 31.63	3 50.26	2.21	63.78	15.72	4.6		
	13	24 26.5	20 0	40.1 36.7	20 38.40	20 30.88	57 42.53	3 48.51	2.31	63.10	15.81	4.4		
	25	24 29.0	20 0	42.5 39.4	20 40.95	20 26.02	57 37.67	3 46.64	2.29	62.92	16.79	6.8		
	28	24 6.7	20 0	13.8 4.2	20 9.00	20 18.10	57 29.75	3 54.52	2.28	63.69	17.02	5.8		
.....														

Date, 1871.		Right Ascension Wires.										Seconds of Transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.		
		1	2	3	4	5	6	7	8	9	10							11
7 LACERTÆ.* $a_0 = 22^h 26^m 1^s.25$																		
Oct.	4	48.6	51.7	54.9	1.3	4.4	7.6	10.9	14.0	20.3	23.7	26.5	7.63	+0.04	—	6.36	—0.02	26 1.29
	8	49.0	52.2	55.5	1.8	4.9	8.0	11.3	14.4	20.8	23.9	27.1	8.08	0.05	—	6.91	+0.05	1.17
	16	...	...	...	2.6	5.7	8.8	12.1	15.2	...	...	...	8.88	0.07	—	7.79	0.20	1.36
	25	44.6	47.8	51.0	57.2	0.4	3.5	6.7	10.0	16.2	19.5	22.6	3.59	0.23	—	3.70	1.15	1.27
	28	43.4	46.6	49.6	56.1	59.2	2.3	5.5	8.9	15.0	18.3	21.4	2.39	0.31	—	2.70	1.22	1.22
Dec.	5	38.9	42.0	45.1	51.4	54.7	57.8	0.9	4.1	10.5	13.7	16.9	57.82	0.42	+	1.66	1.40	1.30
η AQUARIÆ.* $a_0 = 22^h 28^m 46^s.67$																		
Oct.	4	40.0	42.0	44.1	48.2	50.3	52.3	54.4	56.4	0.4	2.5	4.6	52.29	—0.01	—	6.36	+0.80	28 46.72
	8	40.5	42.6	44.6	48.8	50.7	52.8	54.8	56.8	1.0	3.1	5.1	52.80	0.02	—	6.91	0.79	46.66
	29	42.8	44.9	46.9	51.0	53.0	55.1	57.1	59.2	3.3	5.4	7.5	55.11	0.02	—	9.40	1.03	46.72
Nov.	12	41.2	43.2	45.4	49.4	51.5	53.6	55.6	57.7	1.8	3.8	5.8	53.54	0.02	—	8.01	1.20	46.71
	13	40.6	42.7	44.7	48.9	50.9	52.9	54.9	57.0	1.1	3.2	5.2	52.92	0.02	—	7.39	1.21	46.72
	22	...	...	...	45.9	48.0	50.0	52.2	54.3	...	...	...	50.08	0.02	—	4.64	1.33	46.75
	23	37.5	39.6	41.7	45.9	47.9	50.0	52.0	54.0	...	...	...	49.92	0.02	—	4.49	1.34	46.75
	25	36.9	38.9	40.9	45.0	47.0	49.1	51.1	53.2	57.3	59.3	1.4	49.10	0.02	—	3.70	1.37	46.75
	28	35.7	37.9	39.9	44.1	46.1	48.1	50.1	52.2	56.4	58.3	0.3	48.10	0.02	—	2.70	1.41	46.79
Dec.	20	20.2	22.3	24.4	28.7	30.6	32.5	34.7	36.7	40.8	42.9	44.9	32.61	0.02	+	12.43	1.64	46.66
226 B. CEPHEI. $a_0 = 22^h 30^m 1^s.09$																		
Oct.	9	21.2	29.8	37.8	54.5	2.7	10.7	19.0	27.3	43.8	51.9	0.3	10.82	+0.17	—	6.98	—3.91	30 1.10
	22	...	...	...	54.0	2.3	10.4	18.9	27.1	...	...	...	10.54	0.51	—	7.79	3.11	1.15
	31	21.9	29.7	38.5	54.5	2.6	11.4	19.1	27.7	44.3	52.4	0.6	11.15	0.64	—	9.21	2.48	1.10
Nov.	2	22.3	30.6	38.2	55.0	3.1	11.5	19.6	27.9	44.6	53.0	1.3	11.55	0.68	—	9.65	2.33	1.24
	19	16.0	23.8	32.4	48.6	57.1	5.3	13.6	21.7	38.0	46.6	54.8	5.26	1.30	—	5.50	—0.00	1.06
	22	...	...	...	47.8	56.1	4.3	12.7	20.9	...	...	...	4.36	0.92	—	4.64	+0.26	0.90
	23	...	...	...	48.0	55.7	4.3	12.7	21.5	...	...	...	4.44	0.64	—	4.49	0.34	0.93
	25	...	...	...	46.6	54.8	3.5	11.7	19.9	36.2	44.6	52.7	3.35	0.77	—	3.70	0.51	0.93
Dec.	5	7.1	15.1	23.6	40.6	48.7	56.6	5.1	13.2	29.4	37.6	46.3	56.66	1.39	+	1.66	1.35	1.06
	6	6.2	14.4	22.1	38.8	47.6	55.3	3.6	11.8	28.3	36.5	44.9	55.41	1.68	+	2.48	1.43	1.00
ε PISCIS AUSTRALIS. $a_0 = 22^h 33^m 34^s.28$																		
Oct.	4	26.0	28.3	30.6	35.3	37.6	40.0	42.2	44.5	49.2	51.6	54.0	39.93	—0.05	—	6.37	+0.76	33 34.27
	9	26.7	29.0	31.4	36.0	38.3	40.6	42.9	45.3	49.8	52.2	54.6	40.62	0.05	—	6.98	0.80	34.39
	22	27.5	29.7	31.9	36.6	39.0	41.4	43.6	46.0	50.6	52.9	55.3	41.32	0.09	—	7.79	0.94	34.38
	29	29.0	31.2	33.6	38.3	40.6	42.8	45.2	47.5	52.0	54.5	56.8	42.87	0.08	—	9.40	1.03	34.41
Nov.	2	29.0	31.4	33.6	38.4	40.8	43.0	45.3	47.7	52.3	54.7	57.0	43.02	0.12	—	9.65	1.09	34.34
	12	27.5	29.7	32.0	36.6	39.0	41.2	43.6	46.0	50.6	53.1	55.3	41.33	0.13	—	8.00	1.23	34.43
	13	26.8	29.0	31.2	36.0	38.3	40.6	42.9	45.3	50.0	52.4	54.7	40.66	0.13	—	7.38	1.25	34.40
	19	24.9	27.1	29.3	34.1	36.4	38.7	41.1	43.4	48.1	50.4	53.6	38.83	0.20	—	5.49	1.33	34.47
	23	23.8	26.0	28.3	33.0	35.2	37.7	40.0	42.3	47.0	49.4	51.6	37.66	0.11	—	4.48	1.39	34.46
Dec.	5	17.5	19.6	22.0	26.9	29.0	31.3	33.8	36.1	40.7	43.1	45.3	31.39	0.21	+	1.66	1.57	34.41
ζ PEGASI.* $a_0 = 22^h 35^m 4^s.66$																		
Oct.	8	58.4	0.4	2.5	6.7	8.8	10.8	12.9	15.0	19.3	21.3	23.4	10.86	—0.01	—	6.91	+0.76	35 4.70
	9	58.5	0.5	2.6	6.7	8.9	11.0	13.1	15.0	19.3	21.4	23.4	10.94	—0.01	—	6.98	0.77	4.72
	31	0.4	2.6	4.8	8.8	10.8	13.0	15.0	17.1	21.3	23.4	25.4	12.96	+0.01	—	9.21	0.98	4.74
Nov.	2	0.7	2.9	5.0	9.1	11.2	13.2	15.3	17.4	21.6	23.8	25.8	13.27	0.02	—	9.65	1.02	4.66
	13	58.4	0.5	2.6	6.9	9.0	11.0	13.0	15.1	19.4	21.4	23.5	10.98	0.02	—	7.38	1.15	4.77
	22	55.6	57.8	59.8	8.8	6.0	8.1	10.1	12.3	16.4	18.7	20.7	8.12	0.03	—	4.63	1.25	4.77
	23	55.4	57.5	59.5	8.6	5.7	8.0	10.1	12.3	16.1	18.4	20.6	7.93	0.01	—	4.48	1.27	4.73
	25	54.5	56.6	58.6	8.0	5.0	7.0	9.1	11.3	15.4	17.5	19.6	7.05	0.02	—	3.69	1.30	4.68
	28	53.5	55.6	57.6	1.9	4.0	6.1	8.2	10.1	14.4	16.6	18.6	6.05	0.03	—	2.69	1.34	4.73
Dec.	6	48.3	50.4	52.6	56.6	58.7	0.8	2.7	4.9	9.1	11.1	13.2	0.76	0.07	+	2.48	1.43	4.74

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
7 LACERTAE.* $\delta_0 = + 49^\circ 37' 29''.1$												
Oct. 4	25 39.8	45 1	1.3	0.8	46 1.05	46 25.08	36 23.27	+0 7.28	-0.08	+61.76	-2.21	37 30.0
8	25 45.7	45 1	4.6	1.7	46 3.15	46 22.59	36 25.76	0 7.48	0.00	61.41	3.11	31.5
16	26 21.6	45 1	34.5	33.1	46 33.80	46 22.78	36 25.57	0 7.45	0.02	61.01	3.71	30.3
25	26 29.3	45 1	46.7	36.0	46 41.35	46 19.05	36 29.30	0 7.66	0.00	62.92	8.81	31.1
28	26 32.7	45 1	57.1	38.2	46 47.65	46 21.36	36 26.99	0 7.92	0.07	63.69	8.81	29.7
Dec. 5	26 30.8	45 1	59.5	39.0	46 49.25	46 20.62	36 27.73	0 7.78	0.09	62.63	8.81	29.2
η AQUARI.* $\delta_0 = - 0^\circ 46' 35''.7$												
Oct. 4	28 29.9	5 4	1.2	8.0	9 4.60	9 34.58	46 46.23	-0 53.65	-2.32	+61.76	+3.63	46 36.8
8	28 35.2	5 4	7.3	12.7	9 10.00	9 33.56	46 45.21	0 55.16	2.33	61.41	3.63	37.7
29	28 37.9	5 4	7.8	10.1	9 8.95	9 31.97	46 43.62	0 55.40	2.32	61.51	4.13	35.7
Nov. 12	28 34.4	5 4	11.3	6.2	9 8.75	9 34.32	46 45.97	0 57.36	1.95	63.78	4.23	37.3
13	28 35.4	5 4	10.8	7.7	9 9.25	9 32.68	46 44.33	0 56.92	1.96	63.10	4.63	35.5
22	28 28.5	5 4	6.0	5.0	9 5.50	9 34.41	46 46.06	0 55.17	1.87	62.56	5.33	35.2
23	(28 32.9)	5 3	58.8	56.4	8 57.60	9 20.36	46 32.01	0 57.54	1.85	61.64	5.33	(24.4)
25	28 28.5	5 4	9.2	7.6	9 8.40	9 35.98	46 47.63	0 56.45	1.87	62.92	5.53	37.5
28	28 32.0	5 4	14.3	6.1	9 10.20	9 31.75	46 43.40	0 58.32	2.17	63.69	5.63	34.6
Dec. 20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
226 B. CEPHEI. $\delta_0 = + 75^\circ 34' 0''.3$												
Oct. 9	28 45.9	45 4	58.2	53.2	49 55.70	50 24.06	32 24.29	+0 37.67	-0.44	+61.62	-2.48	33 60.7
22	30 43.3	50 0	34.2	31.9	50 33.05	50 22.10	32 26.25	0 37.26	+1.06	62.54	6.08	61.1
31	29 47.0	50 0	16.0	9.0	50 12.50	50 20.58	32 27.77	0 37.90	1.18	62.08	8.08	62.0
Nov. 2	28 56.8	50 0	0.2	50.2	49 55.20	50 20.19	32 28.16	0 38.81	-0.29	61.36	8.38	59.7
19	28 44.4	50 0	0.5	45.2	49 52.85	50 19.88	32 28.47	0 39.55	+0.10	63.05	10.98	60.2
22	30 38.4	50 0	36.0	23.9	50 29.95	50 18.59	32 29.76	0 38.50	1.10	62.56	11.28	60.6
23	30 30.0	50 0	35.0	22.0	50 28.50	50 19.94	32 28.41	0 40.16	1.18	61.64	11.38	60.0
25	30 33.9	50 0	36.0	23.7	50 29.85	50 19.63	32 28.72	0 39.41	1.13	62.92	11.48	60.7
Dec. 5	28 37.2	50 0	4.8	44.4	49 54.60	50 21.19	32 27.16	0 40.02	0.23	62.63	11.88	59.7
6	31 3.9	50 0	54.2	30.8	50 42.50	50 19.62	32 28.73	0 40.58	0.62	62.31	11.88	60.4
ϵ PISCIS AUSTRALIS. $\delta_0 = - 27^\circ 42' 37''.6$												
Oct. 4	33 23.7	0 3	34.8	44.1	3 39.45	3 58.65	41 10.30	-2 36.59	-2.80	+61.76	+9.39	42 38.5
9	33 16.6	0 3	24.6	33.2	3 28.90	3 57.34	41 8.99	2 37.55	2.69	61.62	10.01	37.6
22	33 20.8	0 3	35.6	42.3	3 38.95	4 3.25	41 14.90	2 35.76	2.75	62.54	11.64	39.2
29	33 22.0	0 3	26.8	30.0	3 28.40	3 53.17	41 4.82	2 41.66	2.74	61.51	12.48	35.2
Nov. 2	33 22.0	0 3	28.4	30.2	3 29.30	3 54.31	41 5.96	2 42.31	2.72	61.36	12.92	36.7
12	33 22.2	0 3	31.1	28.0	3 29.55	3 52.18	41 3.83	2 47.47	2.43	63.78	13.95	36.0
13	33 17.6	0 3	29.7	27.1	3 28.40	3 55.66	41 7.31	2 46.11	2.39	63.10	14.04	38.7
19	33 16.7	0 3	30.7	29.2	3 29.95	3 56.15	41 7.80	2 45.36	2.33	63.05	14.56	37.9
23	33 22.9	0 3	34.9	33.8	3 34.35	3 52.01	41 3.66	2 47.96	2.39	61.64	14.86	37.5
Dec. 5	34 1.7	0 4	27.8	19.7	4 23.75	3 47.72	40 58.37	2 47.43	2.19	62.63	15.68	(29.7)
ζ PEGASI.* $\delta_0 = + 10^\circ 9' 49''.9$												
Oct. 8	34 51.5	10 2	56.5	60.0	12 58.25	13 23.81	9 24.54	-0 37.10	-1.80	+61.41	+1.70	9 48.7
9	34 51.2	10 2	56.8	61.0	12 58.90	13 24.86	9 23.49	0 36.32	1.77	61.62	1.60	48.6
31	34 52.1	10 2	55.8	58.9	12 57.35	13 24.89	9 23.46	0 36.54	1.79	62.08	1.10	48.3
Nov. 2	34 51.6	10 2	55.0	53.2	12 54.10	13 22.69	9 25.66	0 37.41	1.79	61.36	1.10	48.9
13	35 34.1	10 3	58.0	52.3	13 55.15	13 24.71	9 23.64	0 38.28	1.63	63.10	1.40	48.2
22	34 49.7	10 3	1.3	57.7	12 59.50	13 23.75	9 24.60	0 37.10	1.47	62.56	1.80	50.4
23	35 2.9	10 3	18.2	12.6	13 15.40	13 21.99	9 26.36	0 38.70	1.45	61.64	1.90	49.7
25	34 48.6	10 3	3.2	58.3	13 0.75	13 25.12	9 23.23	0 37.97	1.47	62.92	2.00	48.7
28	35 23.2	10 3	49.1	38.8	13 43.95	13 21.42	9 26.93	0 39.22	1.51	63.69	2.20	52.1
Dec. 6	35 23.0	10 3	58.1	45.0	13 51.55	13 22.29	9 26.06	0 38.93	1.46	62.31	2.70	50.7

Date. 1871.		Right Ascension Wires.										Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.		
		1	2	3	4	5	6	7	8	9	10							11
η PEGASI.* $a_0 = 22^h 37^m 0^s.26$																		
Oct.	4	52.0	54.3	56.6	1.3	3.8	6.2	8.4	10.8	15.5	17.9	20.3	6.10	+0.01	—	6.37	+0.52	37 0.26
	8	52.4	54.7	57.0	1.9	4.3	6.6	8.9	11.3	15.8	18.3	20.7	6.54	0.02		6.91	0.56	0.21
	9	52.4	54.8	57.1	1.8	4.3	6.6	9.0	11.3	16.0	18.5	20.9	6.61	0.02		6.98	0.57	0.22
	22	53.1	55.6	57.9	2.6	5.0	7.4	9.7	12.0	16.8	19.1	21.6	7.34	0.06		7.79	0.71	0.32
	29	54.6	57.0	59.3	4.1	6.4	8.8	11.1	13.5	18.3	20.6	23.0	8.79	0.05		9.40	0.81	0.25
	31	54.4	56.8	59.1	3.7	6.2	8.6	10.8	13.3	17.9	20.3	22.7	8.53	0.09		9.21	0.84	0.25
Nov.	2	54.7	57.0	59.4	4.1	6.6	8.9	11.2	13.7	18.3	20.7	23.0	8.87	0.09		9.65	0.88	0.19
	13	52.4	54.7	57.0	1.7	4.1	6.5	8.8	11.1	16.0	18.4	20.7	6.49	0.11		7.39	1.03	0.24
	22	49.3	51.8	54.1	58.8	1.3	3.6	5.9	8.3	13.1	15.4	17.8	3.58	0.13		4.63	1.17	0.25
	23	49.5	51.5	53.9	58.8	1.1	3.4	5.7	8.2	12.9	15.2	17.7	3.44	0.08		4.48	1.18	0.22
	25	48.5	50.8	53.1	58.0	0.3	2.6	5.0	7.4	12.0	14.4	16.8	2.63	0.10	—	3.69	1.21	0.25
Dec.	5	42.9	45.3	47.7	52.3	54.6	57.0	59.3	1.8	6.5	8.8	11.2	57.03	0.19	+	1.66	1.37	0.25
13 LACERTÆ.* $a_0 = 22^h 38^m 23^s.16$																		
Oct.	8	13.4	16.0	18.8	24.2	27.0	29.8	32.4	34.9	40.7	43.4	46.1	29.70	+0.04	—	6.91	+0.29	38 23.12
	9	13.3	16.1	18.9	24.3	27.0	29.8	32.6	35.1	40.7	43.5	46.2	29.77	0.03		6.98	0.30	23.12
	22	...	...	...	25.0	27.4	30.4	33.1	35.9	...	...	...	30.36	0.11		7.79	0.49	23.17
Nov.	2	15.7	18.5	21.0	26.5	29.3	32.0	34.7	37.4	43.0	45.6	48.4	32.01	0.15		9.65	0.68	23.19
	12	13.8	16.4	19.2	24.6	27.4	30.1	32.8	35.5	41.0	43.7	46.5	30.09	0.17		8.00	0.87	23.13
	19	11.1	13.8	16.4	21.9	24.7	27.4	30.1	32.9	38.3	40.9	43.8	27.39	0.28		5.49	1.01	23.19
	22	...	...	...	20.9	23.7	26.5	29.3	31.8	...	...	...	26.44	0.20		4.63	1.06	23.07
	28	8.2	10.8	13.5	19.0	21.6	24.4	27.1	29.8	35.2	37.9	40.7	24.38	0.22	—	2.69	1.18	23.09
Dec.	6	2.5	5.3	8.1	13.3	16.0	19.1	21.6	24.4	29.8	32.6	35.2	18.90	0.37	+	2.48	1.35	23.10
λ PEGASI.* $a_0 = 22^h 40^m 22^s.00$																		
Oct.	4	14.4	16.6	18.8	23.3	25.6	27.8	30.0	32.3	36.7	38.9	41.1	27.77	+0.01	—	6.37	+0.59	40 22.00
	8	14.9	17.1	19.4	23.9	26.0	28.3	30.5	32.8	37.3	39.5	41.7	28.31	0.01		6.91	0.63	22.04
	9	15.0	17.2	19.4	24.0	26.1	28.4	30.6	32.9	37.3	39.6	41.8	28.39	0.01		6.98	0.64	22.06
	22	15.7	17.9	20.3	24.7	26.9	29.3	31.3	33.8	38.1	40.4	42.4	29.16	0.04		7.79	0.76	22.17
	29	17.2	19.4	21.6	26.1	28.3	30.6	32.7	35.0	39.5	41.7	43.8	30.54	0.03		9.40	0.85	22.02
Nov.	2	...	...	...	26.3	28.5	30.8	32.9	35.1	...	...	...	30.72	0.06		9.65	0.90	22.03
	12	15.5	17.7	20.0	24.4	26.7	28.9	31.1	33.4	37.8	40.1	42.3	28.90	0.07		8.00	1.04	22.01
	13	14.9	17.2	19.5	23.8	26.0	28.3	30.5	32.7	37.1	39.4	41.7	28.28	0.08		7.38	1.05	22.03
	22	12.0	14.2	16.5	20.9	23.2	25.3	27.6	29.8	34.3	36.5	38.8	25.37	0.09		4.63	1.17	22.00
	23	12.0	14.1	16.4	20.7	23.0	25.1	27.6	29.7	34.0	36.5	38.7	25.26	0.06		4.48	1.18	22.02
	25	11.0	13.2	15.5	19.9	22.2	24.4	26.6	28.8	33.3	35.6	37.8	24.39	0.07		3.69	1.21	21.98
μ PEGASI.* $a_0 = 22^h 43^m 49^s.63$																		
Oct.	4	...	...	...	50.9	53.1	55.3	57.6	59.9	...	...	...	55.36	+0.01	—	6.37	+0.57	43 49.57
	8	42.5	44.7	47.0	51.4	53.5	55.8	58.2	0.2	4.9	7.1	9.3	55.87	+0.01		6.91	0.61	49.58
	9	...	...	...	51.4	53.7	56.0	58.2	0.4	...	...	...	55.94	—0.02		6.98	0.62	49.56
	22	...	...	...	52.2	54.4	56.7	58.9	1.1	...	...	...	56.66	+0.05		7.79	0.75	49.67
	29	44.8	46.9	49.2	53.7	56.0	58.2	0.3	2.7	7.1	9.4	11.8	58.19	0.04		9.40	0.84	49.67
Nov.	12	43.0	45.3	47.6	52.0	54.3	56.5	58.8	1.0	5.4	7.9	10.0	56.53	0.08		8.00	1.03	49.64
	28	37.6	39.8	42.0	46.4	48.7	50.9	53.1	55.3	59.8	2.1	4.4	50.92	0.11	—	2.69	1.25	49.59
Dec.	5	...	...	...	42.0	44.2	46.4	48.6	50.9	...	...	...	46.42	0.15	+	1.66	1.35	49.58
	6	32.1	34.3	36.7	41.0	43.3	45.6	47.9	50.1	54.5	56.8	59.2	45.59	0.18		2.48	1.36	49.61
	17	23.9	26.1	28.4	32.9	35.1	37.3	39.6	41.8	46.3	48.6	50.8	37.34	0.15		10.60	1.51	49.60

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean Reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
η PEGASI.* $\delta_0 = + 29^\circ 33' 8''.6$												
Oct.	4	m. s.	' "	' "	' "	' "	' "	' "	' "	' "	' "	' "
	8	36 47.0	50 0 3.8 5.5	50 4.65	50 26.89	32 21.46	-0 13.06	-0.61	+61.76	-0.47	33 9.1	
	8	36 44.6	50 0 0.0 59.5	49 59.75	50 25.25	32 23.10	0 13.43	0.64	61.41	1.07	9.4	
	9	37 29.9	50 0 52.3 53.7	50 53.00	50 25.87	32 22.48	0 13.14	0.66	61.62	1.17	9.1	
	22	36 39.4	45 4 53.2 54.2	49 53.70	50 26.19	32 22.16	0 12.99	0.71	62.54	2.67	8.3	
	29	36 44.0	45 4 56.1 51.2	49 53.65	50 22.53	32 25.82	0 13.49	0.68	61.51	3.37	9.8	
	31	36 43.8	45 4 56.2 53.9	49 55.05	50 23.81	32 24.54	0 13.22	0.68	62.08	3.57	9.2	
Nov.	2	36 46.1	45 4 58.8 52.1	49 55.45	50 22.00	32 26.35	0 13.54	0.66	61.36	3.67	9.8	
	13	36 44.2	50 0 3.8 53.9	49 58.85	50 24.82	32 23.53	0 13.86	0.64	63.10	4.17	8.0	
	22	36 43.0	50 0 4.0 56.5	50 0.25	50 24.24	32 24.11	0 13.43	0.63	62.56	4.17	8.4	
	23	36 40.6	50 0 1.0 51.2	49 56.10	50 22.65	32 25.70	0 14.01	0.66	61.64	4.17	8.5	
	25	37 23.0	50 0 52.1 44.4	50 48.25	50 24.49	32 23.86	0 13.74	0.67	62.92	4.07	8.3	
Dec.	5	36 42.4	50 0 17.3 1.0	50 9.15	50 26.15	32 22.20	0 13.96	0.60	62.63	3.57	6.7	
 13 LACERTÆ.* $\delta_0 = + 41^\circ 8' 53''.0$												
Oct.	8	38 13.6	10 4 38.0 37.9	14 37.95	14 54.28	7 54.07	-0 1.27	-0.90	+61.41	-1.79	8 51.5	
	9	38 56.0	15 0 19.8 20.3	15 20.05	14 53.64	7 54.71	0 1.24	0.28	61.62	1.99	52.8	
	22	38 44.9	15 0 6.9 8.4	15 7.65	14 52.93	7 55.42	0 1.23	0.13	62.54	4.29	52.3	
Nov.	2	38 3.7	10 4 23.8 19.1	14 21.45	14 49.98	7 58.37	0 1.28	0.99	61.36	5.69	51.8	
	12	38 12.2	10 4 40.2 28.0	14 34.10	14 52.04	7 56.31	0 1.32	0.51	63.78	6.59	51.7	
	19	37 54.9	10 4 22.8 14.5	14 18.65	14 51.41	7 56.94	0 1.30	0.61	63.05	6.89	51.2	
	22	38 40.1	15 0 6.7 59.8	15 3.25	14 49.44	7 58.91	0 1.27	0.10	62.56	6.99	53.1	
	28	37 54.4	10 4 28.3 15.0	14 21.65	14 51.89	7 56.46	0 1.34	0.55	63.69	6.89	51.4	
Dec.	6	38 8.5	10 4 48.1 30.4	14 39.25	14 49.83	7 58.52	0 1.33	0.26	62.31	6.69	52.5	
 λ PEGASI.* $\delta_0 = + 22^\circ 53' 33''.3$												
Oct.	4	40 9.0	25 4 32.2 34.0	29 33.10	29 56.29	52 52.06	-0 20.29	-1.63	+61.76	+0.34	53 32.2	
	8	40 4.6	25 4 24.1 24.5	29 24.30	29 53.53	52 54.82	0 20.84	1.64	61.41	-0.06	33.7	
	9	40 8.1	25 4 29.2 30.8	29 30.00	29 55.04	52 53.31	0 20.41	1.59	61.62	0.16	32.8	
	22	40 4.3	25 4 23.3 24.3	29 23.80	29 54.51	52 53.84	0 20.18	1.68	62.59	1.46	33.1	
	29	40 9.8	25 4 28.8 24.2	29 26.50	29 52.03	52 56.32	0 20.94	1.63	61.51	1.86	33.4	
Nov.	2	40 47.1	30 0 14.6 8.2	30 11.40	29 51.05	52 57.30	0 21.02	0.86	61.36	2.06	34.7	
	12	40 48.7	30 0 23.2 12.0	30 17.60	29 53.18	52 55.17	0 21.68	0.88	63.78	2.36	34.0	
	13	40 9.5	25 4 33.9 25.2	29 29.55	29 52.74	52 55.61	0 21.51	1.21	63.10	2.36	33.6	
	22	40 6.9	25 4 35.0 26.8	29 30.90	29 53.72	52 54.63	0 20.84	1.12	62.56	2.26	33.0	
	23	40 8.2	25 4 34.9 26.1	29 30.50	29 51.59	52 56.76	0 21.75	1.11	61.64	2.16	33.4	
	25	40 2.1	25 4 30.6 23.5	29 27.05	29 54.55	52 53.80	0 21.33	1.15	62.92	2.16	32.1	
 μ PEGASI.* $\delta_0 = + 23^\circ 55' 33''.9$												
Oct.	4	44 10.1	25 3 12.9 15.5	28 14.20	27 56.21	54 52.14	-0 19.13	-1.34	+61.76	+0.53	55 34.0	
	8	43 33.2	25 2 25.3 26.2	27 25.75	27 53.65	54 54.70	0 19.66	1.27	61.41	-0.07	35.1	
	9	43 35.1	25 2 30.8 31.2	27 31.00	27 56.45	54 51.90	0 19.25	1.24	61.62	0.17	32.9	
	22	43 36.3	25 2 28.8 31.0	27 29.90	27 54.87	54 53.48	0 19.02	1.26	62.54	1.47	34.3	
	29	43 37.1	25 2 28.8 25.0	27 26.90	27 52.72	54 55.63	0 19.74	1.25	61.51	2.07	34.1	
Nov.	12	43 38.6	25 2 38.3 27.5	27 32.90	27 54.81	54 53.54	0 20.45	1.02	63.78	2.47	33.4	
	28	43 25.8	25 2 29.1 16.8	27 22.95	27 53.67	54 54.68	0 20.78	1.02	63.79	2.37	34.3	
Dec.	5	43 58.0	25 3 13.8 58.2	28 6.00	27 51.80	54 56.55	0 20.44	0.90	62.63	1.97	35.9	
	6	43 27.3	25 2 39.8 21.8	27 30.80	27 53.20	54 55.15	0 20.63	0.92	62.31	2.07	33.8	
	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

Date. 1871.	Right Ascension Wires.											Seconds of transit over Mean Wire.	$n \tan \delta$ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
<i>\iota</i> CEPHEI.* $a_0 = 22^h 45^m 7^s.67$																
Oct. 9	45.8	50.7	56.0	5.7	10.8	15.7	20.4	25.6	35.5	40.5	45.5	15.65	-0.03	-6.98	-1.01	45 7.63
22	46.6	51.1	56.1	5.7	10.9	15.6	20.7	25.7	35.6	40.7	45.6	15.84	+0.29	7.79	-0.64	7.70
Nov. 2	47.7	52.5	57.5	7.4	12.4	17.3	22.1	27.3	37.3	42.0	47.1	17.33	0.38	9.65	-0.21	7.85
23	41.8	46.6	51.4	1.0	6.4	10.9	15.8	21.0	30.8	36.1	41.0	11.16	0.36	4.48	+0.68	7.72
25	40.6	45.2	50.3	0.3	5.1	10.1	15.0	20.0	30.0	34.9	40.0	10.14	0.43	-3.69	+0.77	7.65
Dec. 17	24.7	29.7	34.6	44.6	49.6	54.4	59.5	4.4	14.3	19.2	24.2	54.47	0.79	+10.60	+1.76	7.62
20	22.7	27.8	32.7	42.7	47.7	52.2	57.7	2.7	12.6	17.3	22.4	52.59	0.68	+12.43	+1.90	7.60
<i>\lambda</i> AQUARI.* $a_0 = 22^h 45^m 56^s.10$																
Oct. 4	...	...	...	57.5	59.6	1.8	3.9	6.0	...	...	...	1.76	-0.02	-6.37	+0.76	45 56.13
28	45.1	47.2	49.3	53.4	55.5	57.6	59.7	1.8	5.9	8.0	10.3	57.62	0.06	-2.69	1.33	56.20
Dec. 6	39.8	41.9	44.0	48.2	50.3	52.3	54.3	56.4	0.5	2.6	4.9	52.29	0.08	+2.49	1.41	56.11
<i>\delta</i> AQUARI.* $a_0 = 22^h 47^m 51^s.26$																
Oct. 4	44.1	46.3	48.3	52.7	54.8	57.0	59.1	1.2	5.5	7.7	10.0	56.97	-0.03	-6.37	+0.74	47 51.31
8	44.8	46.8	49.0	53.3	55.4	57.5	59.7	1.8	6.1	8.3	10.4	57.55	0.04	6.91	0.77	51.37
9	44.7	46.8	48.9	53.1	55.3	57.4	59.6	1.7	6.0	8.1	10.3	57.44	0.02	6.89	0.77	51.30
Nov. 12	45.5	47.7	49.8	54.1	56.1	58.3	0.6	2.6	6.8	9.1	11.1	58.34	0.08	8.00	1.12	51.38
23	41.8	43.9	46.1	50.4	52.6	54.7	56.8	58.9	3.2	5.4	7.5	54.66	0.07	4.48	1.26	51.37
25	41.1	43.2	45.3	49.5	51.7	53.8	56.0	58.2	2.5	4.5	6.7	53.86	0.08	3.69	1.28	51.37
28	40.0	42.1	44.3	48.5	50.7	52.9	54.9	57.1	1.3	3.6	5.6	52.82	0.10	-2.69	1.32	51.35
Dec. 5	35.5	37.7	39.8	44.5	46.2	48.3	50.5	52.7	57.0	59.0	1.2	48.40	0.13	+1.67	1.41	51.35
17	26.5	28.7	30.8	35.0	37.1	39.3	41.4	43.6	47.9	50.0	52.1	39.31	0.13	+10.61	1.54	51.33
20	24.5	26.7	28.9	33.1	35.3	37.4	39.5	41.8	46.0	48.1	50.3	37.42	0.11	+12.43	1.57	51.31
<i>\alpha</i> PISCIS AUSTRALIS. $a_0 = 22^h 50^m 34^s.39$																
Oct. 4	25.9	28.2	30.6	35.3	37.6	40.2	42.4	44.8	49.8	52.0	54.4	40.11	-0.05	-6.37	+0.66	50 34.35
8	26.5	28.8	31.1	36.0	38.3	40.8	43.0	45.4	50.3	52.7	55.0	40.72	0.06	6.91	0.69	34.44
Nov. 12	27.1	29.6	32.0	36.7	39.2	41.4	43.7	46.1	51.2	53.5	55.9	41.49	0.15	8.00	1.10	34.44
23	23.6	26.0	28.3	32.9	35.2	37.9	40.2	42.5	47.3	49.8	52.1	37.80	0.12	4.48	1.26	34.46
25	22.7	25.3	27.5	32.4	34.7	37.2	39.4	41.8	46.6	49.0	51.4	37.09	0.14	3.69	1.29	34.55
28	21.8	24.2	26.4	31.2	33.6	36.1	38.4	40.9	45.6	48.0	50.3	36.04	0.18	-2.69	1.33	34.50
Dec. 6	16.5	18.8	21.1	25.9	28.3	30.7	33.0	35.4	40.2	42.6	45.0	30.68	0.28	+2.49	1.45	34.34
20	6.4	8.7	11.1	15.8	18.3	20.6	23.0	25.4	30.2	32.5	34.9	20.63	0.21	+12.43	1.63	34.48
Pr. XXII. 262. $a_0 = 22^h 52^m 35^s.55$																
Oct. 4	27.0	29.3	31.7	36.5	38.9	41.2	43.6	46.1	50.8	53.2	55.5	41.25	-0.05	-6.37	+0.65	52 35.48
Nov. 23	24.6	27.0	29.4	34.0	36.5	39.0	41.2	43.6	48.4	50.8	53.1	38.87	0.12	4.48	1.24	35.51
25	23.9	26.2	28.6	33.4	35.9	38.2	40.6	42.9	47.6	50.0	52.5	38.16	0.14	3.69	1.27	35.60
28	22.8	25.1	27.5	32.1	34.7	37.1	39.6	42.0	46.7	49.0	51.5	37.10	0.18	-2.69	1.31	35.54
Dec. 5	18.5	20.9	23.3	27.9	30.3	32.8	35.0	37.5	42.2	44.8	47.0	32.74	0.24	+1.67	1.41	35.58
6	17.5	19.9	22.2	27.0	29.3	31.7	34.1	36.7	41.3	43.7	46.1	31.77	0.28	+2.49	1.43	35.41
<i>\alpha</i> ANDROMEDÆ.* $a_0 = 22^h 56^m 2^s.12$																
Oct. 4	51.8	54.5	57.2	2.8	5.4	8.3	11.1	13.7	19.2	22.0	24.8	8.25	+0.03	-6.37	+0.23	56 2.14
8	52.3	55.1	58.0	3.3	6.0	8.7	11.4	14.2	19.7	22.5	25.0	8.74	0.04	6.91	0.28	2.15
29	54.4	57.0	59.8	5.4	8.1	10.8	13.6	16.8	21.8	24.7	27.4	10.89	0.09	9.40	0.54	2.12
Nov. 13	52.0	54.6	57.5	2.9	5.8	8.5	11.3	14.0	19.5	22.2	24.9	8.47	0.17	7.38	0.82	2.08
23	49.0	51.5	54.4	59.9	2.6	5.3	8.1	10.9	16.4	19.1	21.8	5.36	0.14	4.48	1.00	2.02

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
ι CEPHEI.* δ ₀ = + 65° 31' 38".1												
Oct. 9	44 37.3	50 2	15.7	10.9	52 13.30	52 34.60	30 13.75	+0 24.67	+0.26	+62.14	-1.85	31 39.0
22	45 1.3	50 2	23.8	20.0	52 21.90	52 29.95	30 18.40	0 24.36	0.48	62.54	5.45	40.3
Nov. 2	44 36.6	50 2	12.0	1.0	52 6.50	52 29.02	30 19.33	0 25.40	0.21	61.36	7.85	38.4
23	44 28.3	50 2	11.1	57.8	52 4.45	52 28.25	30 20.10	0 26.26	0.40	61.64	10.65	37.8
25	44 40.3	50 2	18.7	5.3	52 12.00	52 28.53	30 19.82	0 25.77	0.62	62.92	10.75	38.4
Dec. 17	44 18.9	50 2	18.0	56.9	52 7.45	52 27.20	30 21.15	0 25.65	0.38	62.70	10.95	38.9
20	44 8.7	50 2	15.6	53.4	52 4.50	52 28.85	30 19.50	0 26.33	0.24	63.08	10.55	38.6
λ AQUARI.* δ ₀ = - 8° 15' 36".6												
Oct. 4	46 14.8	35 3	32.9	42.8	38 37.85	38 20.63	15 32.28	-0 69.74	-2.43	+61.76	+5.15	15 37.5
Nov. 28	45 39.1	35 2	58.0	50.2	37 54.10	38 18.61	15 30.26	0 75.78	1.98	63.69	8.55	35.8
Dec. 6	45 40.9	35 3	10.8	0.8	38 5.80	38 20.90	15 32.55	0 75.22	1.94	62.31	9.05	38.3
δ AQUARI.* δ ₀ = - 16° 30' 2".8												
Oct. 4	47 38.2	50 1	56.0	65.1	52 0.55	52 24.68	29 36.33	-1 34.62	-2.32	+61.76	+5.81	30 5.7
8	47 38.9	50 1	53.6	60.0	51 56.80	52 20.80	29 32.45	1 37.27	2.30	61.41	6.28	4.3
9	47 38.2	50 1	55.3	65.0	52 0.15	52 24.80	29 36.45	1 35.27	2.30	62.14	6.20	5.7
Nov. 12	47 38.9	50 1	59.9	54.0	51 56.95	52 21.85	29 33.50	1 41.23	2.13	63.78	9.17	3.9
23	47 41.1	50 2	1.8	58.9	52 0.35	52 17.81	29 29.46	1 41.44	2.12	61.64	10.06	1.3
25	47 30.8	50 1	54.7	53.7	51 54.20	52 23.85	29 35.50	1 39.53	2.08	62.92	10.21	4.0
28	47 36.9	50 2	4.9	58.2	52 1.55	52 21.96	29 33.61	1 42.83	2.12	63.69	10.43	4.4
Dec. 5	47 31.9	50 2	7.1	57.0	52 2.05	52 23.23	29 34.88	1 41.14	2.07	62.63	10.90	4.6
17	47 24.5	50 2	12.0	3.2	52 7.60	52 26.60	29 38.25	1 39.06	2.27	62.70	11.56	5.3
20	47 21.3	50 2	6.1	56.5	52 1.30	52 21.97	29 33.62	1 41.71	2.26	63.08	11.70	2.8
α PISCIS AUSTRALIS. δ ₀ = - 30° 17' 59".2												
Oct. 4	50 21.2	35 3	30.8	37.8	38 34.30	38 56.15	16 7.80	-3 1.27	-2.78	+61.76	+9.55	17 60.5
8	50 23.6	35 3	29.0	34.3	38 31.65	38 51.41	16 3.06	3 6.31	2.77	61.41	10.09	60.6
Nov. 12	50 24.4	35 3	33.2	26.9	38 30.05	38 49.81	16 1.46	3 13.96	2.46	63.78	14.79	59.3
23	50 15.4	35 3	22.0	19.1	38 20.55	38 46.44	15 58.09	3 14.39	2.33	61.64	15.79	57.4
25	50 18.1	35 3	33.6	30.2	38 31.90	38 53.87	16 5.51	3 10.69	2.38	62.92	15.89	59.8
28	50 19.4	35 3	31.3	22.7	38 27.00	38 46.99	15 58.64	3 17.10	2.39	63.69	16.09	58.4
Dec. 6	50 8.4	35 3	28.0	16.0	38 22.00	38 47.78	15 59.43	3 15.62	2.27	62.31	16.59	58.4
20	49 59.8	35 3	29.8	19.5	38 24.65	38 48.69	16 0.34	3 14.98	2.59	63.08	17.09	57.7
PI. XXII. 262. δ ₀ = - 30° 8' 52".6												
Oct. 4	53 4.7	30 0	12.6	19.8	30 16.20	29 49.11	7 0.76	-2 59.43	-2.87	+61.76	+9.59	8 51.7
Nov. 23	52 21.7	25 4	22.3	17.9	29 20.10	29 40.01	6 51.66	3 12.49	2.44	61.64	15.85	49.1
25	52 17.9	25 4	25.3	23.0	29 24.15	29 47.65	6 59.30	3 8.85	2.42	62.92	16.01	51.6
28	52 17.3	25 4	21.1	12.6	29 16.85	29 39.77	6 51.42	3 15.22	2.42	63.69	16.23	49.1
Dec. 5	52 12.7	25 4	22.9	13.8	29 18.35	29 41.50	6 53.15	3 11.99	2.33	62.63	16.67	48.2
6	52 12.6	25 4	25.0	13.2	29 19.10	29 41.33	6 52.98	3 13.76	2.34	62.31	16.72	50.1
ο ANDROMEDÆ.* δ ₀ = + 41° 38' 17".8												
Oct. 4	55 40.7	45 0	2.4	5.2	45 3.80	45 31.32	37 17.03	-0 0.73	-0.25	+61.76	-0.05	38 17.8
8	55 40.8	45 0	0.9	0.9	45 0.90	45 28.82	37 19.53	0 0.76	0.25	61.41	0.95	19.0
29	55 43.8	45 0	1.0	57.9	44 59.45	45 26.57	37 21.78	0 0.76	1.10	61.51	4.55	16.9
Nov. 13	55 44.6	45 0	5.8	57.0	45 1.40	45 25.31	37 23.04	0 0.79	0.20	63.10	6.15	19.0
23	55 39.3	45 0	3.9	55.8	44 59.55	45 25.67	37 22.68	0 0.80	0.52	61.64	6.65	16.3

Date. 1871.	Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
	1	2	3	4	5	6	7	8	9	10	11						
α ANDROMEDÆ* $a_0 = 22^h 56^m 2^s.12$																	
Nov. 25	48.0	50.8	53.5	59.0	1.8	4.5	7.2	10.1	15.5	18.3	21.0	4.52	+0.17	—	3.69	+1.04	56 2.04
28	...	...	...	57.8	0.7	3.3	6.2	9.0	...	...	...	3.40	0.23	—	2.69	1.10	2.04
Dec. 5	...	...	...	53.4	56.1	59.1	1.7	4.5	...	...	...	58.96	0.31	+	1.67	1.24	2.18
6	41.5	44.2	46.8	52.5	55.2	57.9	0.8	3.4	9.1	11.7	14.5	57.96	0.38	+	2.49	1.26	2.09
17	33.3	36.0	38.7	44.2	46.9	49.7	52.4	55.2	0.6	3.5	6.2	49.70	0.31	+	10.61	1.47	2.09
α PEGASI.* $a_0 = 22^h 58^m 23^s.17$																	
Oct. 4	16.2	18.3	20.4	24.6	26.8	28.9	31.0	33.1	37.3	39.4	41.6	28.87	—0.00	—	6.37	+0.64	58 23.14
8	16.9	18.9	21.0	25.1	26.3	29.4	31.4	33.6	38.0	40.0	42.1	29.34	—0.00		6.91	0.67	23.10
15	...	...	...	25.7	27.8	29.9	32.2	34.2	...	...	...	29.96	—0.00		7.49	0.72	23.19
29	19.0	21.0	23.2	27.4	29.6	31.7	33.8	36.0	40.2	42.3	44.5	31.70	+0.01		9.40	0.84	23.15
Nov. 12	17.4	19.5	21.6	25.9	28.0	30.1	32.3	34.5	38.6	40.8	42.9	30.14	0.04		8.00	1.00	23.18
13	16.8	19.0	21.0	25.3	27.4	29.6	31.7	33.7	38.0	40.1	42.1	29.52	0.04		7.38	1.01	23.19
23	13.7	16.0	18.1	22.3	24.4	26.5	28.7	30.7	34.9	37.1	39.1	26.50	0.03		4.48	1.14	23.19
25	12.9	15.0	17.2	21.4	23.6	25.7	27.8	29.9	34.1	36.3	38.4	25.66	0.04		3.69	1.16	23.17
28	11.9	14.0	16.1	20.3	22.4	24.5	26.7	28.7	33.1	35.3	37.3	24.57	0.06	—	2.69	1.20	23.14
Dec. 5	7.5	9.5	11.7	15.8	18.0	20.2	22.3	24.3	28.5	30.7	32.8	20.12	0.08	+	1.67	1.28	23.15
6	6.6	8.7	10.8	15.1	17.2	19.4	21.6	23.5	27.8	29.9	31.9	19.32	0.10	+	2.49	1.29	23.20
17	58.3	0.3	2.5	6.7	8.9	11.1	13.1	15.3	19.4	21.7	23.8	11.01	0.08	+	10.61	1.42	23.12
55 PEGASI. $a_0 = 23^h 0^m 33^s.44$																	
Oct. 15	27.7	29.7	31.8	36.0	38.0	40.1	42.2	44.2	48.4	50.5	52.5	40.10	—0.01	—	7.49	+0.75	0 33.35
Nov. 13	27.4	29.4	31.6	35.7	37.8	39.8	41.9	44.0	48.1	50.2	52.3	39.84	+0.02		7.38	1.03	33.51
23	24.3	26.4	28.5	32.5	34.6	36.7	38.9	40.9	45.0	47.1	49.1	36.73	0.01		4.48	1.14	33.40
25	23.5	25.5	27.6	31.8	33.9	34.0	38.0	40.1	44.3	46.4	48.4	35.77	0.02		3.69	1.17	33.27
28	22.5	24.4	26.6	30.8	32.7	34.8	36.9	38.0	43.2	45.2	47.3	34.76	0.03	—	2.69	1.20	33.30
Dec. 5	18.1	20.1	22.2	26.3	28.3	30.4	32.5	34.6	38.7	40.8	43.0	30.45	0.04	+	1.67	1.28	33.44
6	17.1	19.2	21.2	25.4	27.6	29.6	31.7	33.8	37.8	39.9	42.0	29.57	0.05	+	2.49	1.30	33.41
17	9.0	11.0	13.1	17.2	19.2	21.3	23.4	25.6	29.7	31.7	33.8	21.36	0.04	+	10.61	1.42	33.43
20	7.0	9.0	11.2	15.2	17.4	19.4	21.5	23.6	27.7	29.7	31.9	19.42	0.03	+	12.44	1.45	33.34
α^2 AQUARI. $a_0 = 23^h 2^m 37^s.16$																	
Oct. 29	32.5	34.7	36.9	41.4	43.7	45.8	48.0	50.3	54.6	57.0	59.2	45.83	—0.06	—	9.40	+0.86	2 37.23
Nov. 13	30.6	32.7	34.8	39.1	41.5	43.8	46.0	48.1	52.6	54.9	57.1	43.74	0.11		7.38	1.03	37.28
23	27.4	29.6	31.8	36.3	38.5	40.6	43.0	45.1	49.4	51.7	53.9	40.66	0.09		4.48	1.16	37.25
25	26.6	28.8	31.0	35.4	37.6	39.9	42.1	44.2	48.6	50.9	53.1	39.84	0.10		3.69	1.18	37.23
28	25.6	27.6	29.9	34.3	36.6	38.8	41.1	43.2	47.6	49.7	52.1	38.77	0.13	—	2.69	1.22	37.17
Dec. 6	20.3	22.5	24.7	29.1	31.3	33.6	35.8	38.1	42.5	44.8	47.0	33.61	0.20	+	2.49	1.32	37.22
17	11.8	14.1	16.5	20.9	23.2	25.4	27.6	29.8	34.2	36.4	38.7	25.33	0.17		10.61	1.46	37.23
20	10.1	12.3	14.5	19.0	21.2	23.4	25.7	27.7	32.3	34.5	36.7	23.40	0.15		12.44	1.49	37.18
59 PEGASI. $a_0 = 23^h 5^m 16^s.48$																	
Oct. 3	9.6	11.4	13.3	17.7	19.9	22.0	24.0	26.1	30.2	32.3	34.5	21.91	—0.01	—	6.15	+0.67	5 16.42
29	12.6	14.7	16.9	20.9	23.0	25.0	27.1	29.2	33.4	36.5	37.6	25.08	—0.00		9.40	0.85	16.53
Nov. 13	10.5	12.6	14.6	18.8	20.8	22.8	25.0	27.0	31.1	33.3	35.3	22.89	+0.01		7.38	1.01	16.53
23	7.4	9.5	11.6	15.7	17.7	19.9	21.9	24.0	28.1	30.1	32.2	19.83	0.01		4.48	1.12	16.48
25	6.6	8.7	10.8	14.8	16.9	19.0	21.1	23.1	27.3	29.3	31.4	19.00	0.01	—	3.69	1.14	16.46
Dec. 17	52.1	54.1	56.2	0.3	2.4	4.5	6.5	8.6	12.8	14.9	16.9	4.48	0.04	+	10.61	1.40	16.53
20	50.1	52.1	54.2	58.5	0.6	2.5	4.7	6.8	10.9	13.0	15.0	2.58	0.03	+	12.44	1.43	16.48

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.*								
o ANDROMEDÆ.* δ ₀ = + 41° 38' 17".8												
Nov. 25	56 12.1	45 0	37.4	30.6	45 34.00	45 26.39	37 21.96	-0 0.78	-0.10	+62.92	-6.75	38 17.2
28	56 15.7	45 0	46.8	33.2	45 40.00	45 27.69	37 20.66	0 0.81	0.12	63.69	6.75	16.7
Dec. 5	55 48.3	45 0	22.6	6.8	45 14.70	45 25.40	37 22.95	0 0.81	0.08	62.63	6.65	18.0
6	56 28.6	45 0	4.2	45.9	45 55.05	45 24.43	37 23.92	0 0.80	0.34	62.36	6.65	18.4
17	55 23.3	45 0	7.4	52.9	45 0.15	45 26.57	37 21.78	0 0.78	0.22	62.70	6.05	17.4
α PEGASI.* δ ₀ = + 14° 31' 1".6												
Oct. 4	58 10.7	50 1	53.2	60.0	51 56.60	52 20.19	30 28.16	-0 30.31	-1.47	+61.76	+1.92	31 0.1
8	58 8.5	50 1	48.2	52.0	51 50.10	52 17.06	30 31.29	0 31.16	1.47	61.41	1.62	1.7
15	58 41.0	50 2	32.7	40.6	52 36.65	52 22.40	30 25.95	0 30.94	1.55	65.73	1.12	0.3
29	58 13.4	50 1	51.7	52.8	51 52.25	52 15.97	30 32.38	0 31.30	1.47	61.51	0.52	1.6
Nov. 12	58 55.0	50 2	52.0	44.5	52 48.25	52 15.98	30 32.37	0 32.43	1.40	63.78	0.32	2.6
13	58 11.9	50 1	57.2	51.3	51 54.25	52 17.06	30 31.29	0 32.13	1.30	63.10	0.32	1.3
23	58 8.0	50 1	53.0	48.7	51 50.85	52 14.83	30 33.52	0 32.47	1.26	61.64	0.52	1.9
25	58 5.9	50 1	54.4	50.3	51 52.35	52 18.01	30 30.34	0 31.87	1.27	62.92	0.62	0.7
28	58 3.6	50 1	56.0	47.0	51 51.50	52 18.71	30 29.64	0 32.93	1.27	63.69	1.12	0.3
Dec. 5	58 4.5	50 1	59.8	49.7	51 54.75	52 15.10	30 33.25	0 32.39	1.22	62.63	1.12	3.4
6	57 58.0	50 1	55.6	43.9	51 49.75	52 17.35	30 31.00	0 32.68	1.39	62.51	1.22	0.6
17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
55 PEGASI. δ ₀ = + 8° 43' 5".8												
Oct. 15	0 18.2	35 4	38.0	44.6	39 41.30	40 10.28	42 38.07	-0 38.96	-2.11	+65.73	+2.15	43 4.9
Nov. 13	0 16.1	35 4	35.9	30.2	39 33.05	40 4.41	42 43.94	0 40.47	1.73	63.10	2.10	6.9
23	0 19.7	35 4	42.6	37.8	39 40.20	40 2.69	42 45.66	0 40.89	1.63	61.64	2.43	7.2
25	0 18.2	35 4	45.9	41.6	39 43.75	40 7.04	42 41.31	0 40.14	1.63	62.92	2.52	5.0
28	0 16.1	35 4	45.0	35.9	39 40.45	40 5.19	42 43.16	0 41.46	1.63	63.69	2.68	6.4
Dec. 5	0 10.4	35 4	43.7	33.0	39 38.35	40 4.95	42 43.40	0 40.79	1.54	62.63	3.09	6.8
6	0 23.6	40 0	5.0	51.2	39 58.10	40 6.04	42 42.31	0 41.15	1.52	62.31	3.15	5.1
17	59 57.4	35 4	42.1	30.9	39 36.50	40 8.26	42 40.09	0 39.96	1.96	62.70	3.96	4.8
20	0 3.3	40 0	51.7	39.0	39 45.35	40 6.66	42 41.69	0 41.04	1.95	63.08	4.20	6.0
ε ² AQUARI. δ ₀ = - 21° 51' 58".7												
Oct. 29	2 27.8	35 3	32.1	35.0	13 33.55	13 55.91	51 7.56	-2 2.24	-2.65	+61.51	+10.45	51 60.5
Nov. 13	2 24.4	35 3	32.1	31.2	13 31.65	13 55.63	51 7.28	2 5.50	2.65	63.10	12.03	60.3
23	2 19.4	35 3	26.3	25.6	13 25.95	13 52.41	51 4.06	2 6.85	2.24	61.64	12.96	58.6
25	(2 21.3)	35 3	29.9	29.5	13 29.70	13 52.69	51 4.34	2 4.47	2.27	62.92	13.13	(55.0)
28	2 20.6	35 3	35.3	30.5	13 32.90	13 55.51	51 7.16	2 8.62	2.27	63.69	13.37	61.0
Dec. 6	2 15.9	35 3	39.6	30.1	13 34.85	13 56.83	51 8.48	2 7.66	2.20	62.31	13.94	62.1
17	2 12.9	35 3	49.7	42.7	13 46.20	13 1.61	51 13.26	2 3.92	2.58	62.70	14.53	62.5
20	2 9.0	35 3	42.5	34.0	13 38.25	13 56.14	51 7.79	2 7.31	2.56	63.08	14.64	59.9
59 PEGASI. δ ₀ = + 8° 1' 31".7												
Oct. 3	5 3.4	20 1	14.3	21.2	21 17.75	21 42.14	1 6.21	-0 38.75	-1.58	61.57	+2.89	1 30.3
29	5 6.6	20 1	13.7	14.1	21 13.90	21 38.42	1 9.93	0 40.48	1.56	61.51	2.14	31.5
Nov. 13	5 7.1	20 1	20.3	14.2	21 17.25	21 38.20	1 10.15	0 41.55	1.45	63.10	2.34	32.6
23	5 0.7	20 1	15.3	10.2	21 12.75	21 38.07	1 10.28	0 41.99	1.43	61.64	2.70	31.2
25	4 57.6	20 1	13.7	10.1	21 11.90	21 40.27	1 8.08	0 41.20	1.44	62.92	2.79	31.1
Dec. 17	4 44.3	20 1	20.6	9.6	21 15.10	21 41.88	1 6.47	0 41.03	1.53	62.70	4.19	30.8
20	4 42.5	20 1	20.2	7.0	21 13.60	21 40.25	1 8.10	0 42.15	1.53	63.08	4.44	31.9

Date.	Right Ascension Wires.											Seconds of Transit over Mean Wire.	$n \tan \delta$ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
1871.	1	2	3	4	5	6	7	8	9	10	11						
ϕ AQUARI. $a_0 = 23^h 7^m 41^s.55$																	
Oct. 3	...	...	...	42.9	44.9	46.9	49.1	51.2	...	...	...	47.00	-0.03	-	6.15	+0.70	m. 7 41.52
9	35.4	37.5	39.5	43.5	45.6	47.7	49.8	51.9	56.1	58.2	0.3	47.77	0.02	-	6.89	0.72	41.58
29	37.8	39.9	41.9	46.1	48.0	50.2	52.2	54.3	58.5	0.6	2.6	50.19	0.03	-	9.40	0.86	41.62
Nov. 13	35.7	37.7	39.9	43.9	46.1	48.1	50.2	52.3	56.4	58.6	0.5	48.13	0.04	-	7.38	1.02	41.73
23	32.6	34.7	36.8	40.7	42.8	44.9	47.0	49.1	53.2	55.3	57.4	44.96	0.04	-	4.48	1.13	41.57
25	31.8	33.8	35.8	39.9	42.1	44.2	46.1	48.3	52.4	54.4	56.5	44.12	0.04	-	3.69	1.15	41.54
Dec. 6	25.3	27.5	29.6	33.7	35.8	37.9	39.9	42.0	46.2	48.1	50.2	37.83	0.07	+	2.49	1.28	41.53
17	17.1	19.3	21.4	25.5	27.6	29.6	31.7	33.8	38.0	40.0	42.1	29.64	0.06	-	10.61	1.40	41.59
20	15.3	17.4	19.4	23.7	25.6	27.7	29.8	32.0	35.9	38.0	40.2	27.73	0.06	-	12.44	1.43	41.54
γ PISCUM.* $a_0 = 23^h 10^m 31^s.77$																	
Oct. 9	25.7	27.7	29.7	23.8	35.9	38.0	40.0	42.1	46.2	48.3	50.3	37.97	-0.01	-	6.89	+0.72	10 31.79
29	28.1	30.2	32.1	36.3	38.3	40.4	42.4	44.5	48.7	50.7	52.8	40.41	0.01	-	9.40	0.87	31.87
Nov. 13	26.0	28.0	30.1	34.1	36.1	38.2	40.4	42.5	46.5	48.7	50.8	38.31	0.00	-	7.38	1.01	31.94
23	22.8	24.9	27.0	30.9	33.0	35.2	37.2	39.2	43.3	45.4	47.6	35.14	0.01	-	4.48	1.11	31.76
25	22.1	24.1	26.2	30.4	32.4	34.4	36.5	38.6	42.6	44.8	46.8	34.44	-0.01	-	3.69	1.13	31.87
Dec. 6	15.7	17.8	19.8	23.9	26.0	28.1	30.2	32.3	36.3	38.4	40.5	28.09	+0.01	+	2.49	1.25	31.84
17	7.5	9.6	11.7	15.8	17.8	19.9	21.9	24.0	28.1	30.1	32.1	19.86	0.00	-	10.62	1.36	31.84
20	5.6	7.7	9.7	13.9	15.8	17.9	20.0	22.1	26.1	28.3	30.3	17.94	0.00	-	12.45	1.39	31.78
ψ^3 AQUARI. $a_0 = 23^h 12^m 18^s.05$																	
Oct. 3	11.1	13.2	15.3	19.4	21.5	23.7	25.7	27.8	32.0	34.1	36.2	23.64	-0.03	-	6.15	+0.67	15 18.13
9	11.9	13.9	16.0	20.2	22.3	24.4	26.5	28.6	32.7	34.8	36.9	24.38	0.02	-	6.89	0.70	18.17
29	...	...	...	22.6	24.7	26.7	28.9	31.0	...	...	...	26.78	0.04	-	9.40	0.84	18.18
Nov. 13	12.3	14.3	16.5	20.6	22.7	24.7	26.9	28.8	33.3	35.1	37.3	24.77	0.05	-	7.38	0.99	18.33
23	9.0	11.1	13.2	17.4	19.6	21.7	23.8	25.7	30.0	32.1	34.2	21.62	0.05	-	4.48	1.10	18.19
25	8.3	10.3	12.4	16.6	18.7	20.8	22.9	25.0	29.1	31.2	33.3	20.78	0.05	-	3.69	1.12	18.16
Dec. 6	1.9	4.1	6.1	10.3	12.4	14.5	16.5	18.7	22.8	24.9	27.1	14.48	0.10	+	2.49	1.25	18.12
17	53.7	55.7	57.9	2.1	4.1	6.3	8.4	10.4	14.6	16.7	18.8	6.24	0.08	-	10.62	1.37	18.15
20	52.0	54.0	56.0	0.2	2.2	4.5	6.5	8.7	12.8	14.9	17.0	4.44	0.08	-	12.45	1.40	18.21
τ PEGASI.* $a_0 = 23^h 14^m 18^s.22$																	
Oct. 9	11.1	13.3	15.6	20.0	22.3	24.6	26.7	29.0	33.4	35.7	38.0	24.52	-0.02	-	6.89	+0.57	14 18.18
16	12.1	14.3	16.4	20.9	23.1	25.4	27.7	29.9	34.4	36.7	38.9	25.44	+0.02	-	7.84	0.61	18.23
Nov. 13	11.3	13.4	15.7	20.1	22.5	24.7	26.8	29.1	33.6	35.9	38.0	24.64	0.07	-	7.38	0.90	18.23
23	8.2	10.5	12.7	17.3	19.5	21.6	24.0	26.3	30.6	32.9	35.1	21.70	0.06	-	4.48	1.02	18.30
25	7.4	9.6	11.7	16.3	18.4	20.8	23.0	25.2	29.6	31.9	34.2	20.74	0.07	-	3.69	1.05	18.17
Dec. 6	...	...	...	9.9	11.9	14.3	16.6	18.8	...	...	...	14.30	0.17	+	2.49	1.19	18.15
12	56.7	59.0	1.2	5.7	9.0	10.2	12.3	14.7	19.1	21.3	23.5	10.24	0.15	-	6.64	1.26	18.29
17	52.8	54.9	57.1	1.7	3.9	6.1	8.4	10.6	15.1	17.4	19.6	6.14	0.14	-	10.62	1.33	18.23
20	50.7	52.9	55.3	59.7	2.0	4.2	6.5	8.8	13.1	15.4	17.5	4.19	0.12	-	12.45	1.37	18.13
b^1 AQUARI. $a_0 = 23^h 16^m 14^s.77$																	
Oct. 3	...	...	...	15.7	18.0	20.3	22.6	24.8	...	...	...	20.28	-0.04	-	6.15	+0.62	16 14.71
16	8.8	11.1	13.0	17.5	19.7	21.9	24.3	26.4	30.7	32.9	35.2	21.95	0.05	-	7.84	0.68	14.74
29	10.4	12.5	14.7	19.1	21.2	23.3	25.6	27.8	32.3	34.4	36.7	23.45	0.06	-	9.40	0.78	14.77
Nov. 13	8.3	10.4	12.6	17.0	19.2	21.4	23.6	25.8	30.3	32.3	34.6	21.41	0.10	-	7.37	0.95	14.89
23	5.1	7.3	9.6	13.8	16.1	18.3	20.6	22.7	27.2	29.3	31.6	18.33	0.08	-	4.48	1.07	14.84
25	4.4	6.5	8.7	13.1	15.2	17.4	19.7	21.9	26.2	28.3	30.6	17.45	0.10	-	3.68	1.09	14.76
Dec. 6	58.2	0.2	2.5	6.8	9.0	11.2	13.4	15.7	20.1	22.3	24.5	11.26	0.19	+	2.50	1.23	14.80
12	53.8	56.0	58.3	2.5	4.7	7.0	9.2	11.4	15.8	18.1	20.3	7.01	0.16	-	6.64	1.30	14.79
17	49.8	52.0	54.1	58.6	0.7	3.0	5.1	7.3	11.7	14.0	16.1	2.94	0.16	-	10.62	1.36	14.76
20	48.0	50.1	52.2	56.6	59.0	1.1	3.3	5.4	9.8	12.1	14.2	1.07	0.14	-	12.45	1.39	14.77

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
ϕ AQUARI.												
$\delta_0 = -6^\circ 44' 18''.6$												
Oct. 3	m. 7 24.0	' 5 1	' 32.1	' 41.7	' 6 36.90	' 7 7.48	' 44 19.13	' -0 65.40	' -2.01	' +61.57	' +4.92	' 44 20.1
9	7 25.4	5 1	34.2	41.3	6 37.75	7 7.53	44 19.18	0 66.65	2.00	62.14	5.09	20.6
29	7 32.0	5 1	40.1	41.9	6 41.00	7 5.19	44 16.84	0 68.31	2.04	61.51	6.06	19.6
Nov. 13	7 27.1	5 1	38.9	35.9	6 37.40	7 5.32	44 16.97	0 70.11	1.85	63.10	7.02	18.8
23	7 27.9	5 1	42.0	39.8	6 40.90	7 3.62	44 15.27	0 70.85	1.85	61.64	7.72	18.6
25	7 25.1	5 1	43.9	42.6	6 43.25	7 8.51	44 20.16	0 69.53	1.84	62.92	7.86	20.7
Dec. 6	7 19.9	5 1	48.6	37.0	6 42.80	7 6.46	44 18.11	0 71.33	1.82	62.31	8.63	20.3
17	7 12.9	5 1	53.5	43.5	6 48.50	7 10.70	44 21.35	0 69.24	1.98	62.70	9.39	20.5
20	7 8.3	5 1	45.6	35.0	6 40.30	7 6.09	44 17.74	0 71.15	1.96	63.08	9.59	18.3
γ PISCUM.*												
$\delta_0 = +2^\circ 35' 0''.0$												
Oct. 9	11 2.8	45 3	34.9	39.8	48 37.35	48 4.18	34 44.17	-0 48.14	-1.96	+62.14	+3.58	34 59.8
29	10 20.7	45 2	35.0	33.4	47 34.20	48 0.55	34 47.80	0 49.32	1.97	61.51	3.58	61.6
Nov. 13	(10 18.5)	45 2	39.3	32.9	47 36.10	48 2.58	34 45.77	0 50.60	1.74	63.10	4.08	60.6
23	10 17.6	45 2	40.0	35.0	47 37.50	48 0.91	34 47.44	0 51.13	1.68	61.64	4.58	60.8
25	10 18.6	45 2	44.6	39.0	47 41.80	48 2.93	34 45.42	0 50.19	1.68	62.92	4.78	61.2
Dec. 6	10 13.6	45 2	50.4	36.8	47 43.60	48 2.99	34 45.36	0 51.47	1.69	62.31	5.38	59.9
17	10 1.9	45 2	47.6	35.5	47 41.55	48 5.62	34 42.73	0 49.99	1.88	62.70	6.18	59.7
20	9 57.7	45 2	42.6	28.7	47 35.65	48 2.66	34 45.69	0 51.37	1.87	63.08	6.38	61.9
ψ^3 AQUARI.												
$\delta_0 = -10^\circ 18' 36''.6$												
Oct. 3	12 2.8	40 0	46.3	56.2	40 51.25	41 18.64	18 30.29	-0 74.28	-1.99	+61.51	+5.43	18 39.6
9	12 4.6	40 0	46.7	55.4	40 51.05	41 17.13	18 28.78	0 75.73	1.98	62.14	5.73	38.6
29	12 33.0	40 1	20.7	25.2	41 22.95	41 14.78	18 26.43	0 77.59	2.12	61.51	7.04	37.6
Nov. 13	12 55.1	40 1	54.0	51.2	41 52.60	41 12.70	18 24.35	0 79.62	1.96	63.10	8.18	(34.7)
23	12 8.2	40 0	57.1	56.6	40 56.85	41 14.50	18 26.15	0 80.45	1.92	61.64	8.96	37.9
25	12 6.6	40 0	57.8	55.9	40 56.85	41 15.42	18 27.07	0 78.96	1.91	62.92	9.12	35.9
Dec. 6	12 25.6	40 1	45.0	24.8	41 34.90	41 20.28	18 31.93	0 80.99	1.93	62.31	9.93	42.6
17	11 54.0	40 1	7.5	59.8	41 3.65	41 19.71	18 31.36	0 78.65	2.00	62.70	10.66	38.7
20	11 51.1	40 1	3.8	54.4	40 59.10	41 16.62	18 28.27	0 80.82	2.00	63.08	10.84	37.2
τ PEGASI.*												
$\delta_0 = +23^\circ 2' 23''.6$												
Oct. 9	14 2.4	20 0	39.0	41.2	20 40.10	21 7.33	1 41.02	-0 20.30	-0.99	+62.14	+1.04	2 22.9
16	14 3.4	20 0	36.5	36.8	20 36.65	21 3.75	1 44.60	0 20.61	0.97	61.01	0.34	24.4
Nov. 13	14 45.4	20 1	35.2	24.8	21 30.00	21 4.37	1 43.98	0 21.34	0.99	63.10	-1.66	23.1
23	14 1.9	20 0	42.0	34.0	20 38.00	21 2.39	1 45.96	0 21.56	0.90	61.64	1.76	23.4
25	14 3.3	20 0	46.8	38.0	20 42.40	21 3.84	1 44.51	0 21.16	0.88	62.92	1.76	23.6
Dec. 6	14 26.6	20 1	26.7	9.0	21 17.85	21 2.70	1 45.65	0 21.71	0.86	62.31	1.46	23.9
12	14 31.9	20 1	37.4	23.0	21 30.20	21 3.47	1 44.88	0 21.48	1.07	62.36	1.16	23.5
17	13 47.3	20 0	49.5	33.7	20 41.60	21 4.76	1 43.59	0 21.08	0.94	62.70	0.86	23.4
20	13 45.7	20 0	49.0	32.0	20 40.50	21 3.29	1 45.06	0 21.66	0.94	63.08	0.66	24.9
b^1 AQUARI.												
$\delta_0 = -20^\circ 47' 56''.5$												
Oct. 3	16 28.6	10 0	5.7	14.2	10 9.95	9 59.56	47 11.21	-1 51.61	-2.11	+61.57	+7.06	47 56.3
16	16 3.6	5 4	29.6	37.1	9 33.35	9 56.38	47 8.03	1 55.55	2.77	61.01	8.46	56.9
29	16 3.5	5 4	31.0	35.8	9 33.40	9 58.31	47 9.96	1 56.62	2.81	61.51	9.94	57.9
Nov. 13	16 8.5	5 4	41.1	38.7	9 39.90	9 56.04	47 7.69	1 59.66	2.45	63.10	11.57	55.1
23	15 56.9	5 4	27.5	26.2	9 26.85	9 53.63	47 5.28	2 0.90	2.29	61.64	12.55	54.3
25	15 59.9	5 4	39.1	38.1	9 38.60	10 0.63	47 12.28	1 58.66	2.32	62.92	12.73	57.6
Dec. 6	15 52.5	5 4	38.2	28.6	9 33.40	9 56.93	47 8.58	2 1.76	2.23	62.31	13.62	56.6
12	15 57.2	5 4	49.8	43.3	9 46.55	9 58.81	47 10.46	2 0.44	2.71	62.36	14.01	57.2
17	15 47.4	5 4	45.1	37.0	9 41.05	10 0.45	47 12.10	1 58.19	2.68	62.70	14.28	56.0
20	15 49.8	5 4	47.8	38.0	9 42.90	9 57.04	47 8.69	2 1.51	2.70	63.08	14.41	55.4

Date.		Right Ascension Wires.										Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.		
1871.		1	2	3	4	5	6	7	8	9	10						11	
<i>v</i> PEGASI.* $a_0 = 23^h 18^m 59^s.57$																		
Oct.	9	52.4	54.6	57.0	1.4	3.6	5.8	8.0	10.4	14.8	17.0	19.3	5.85	-0.02	-	6.89	+0.58	18 59.52
	16	53.4	55.6	57.8	2.4	4.7	6.8	9.0	11.3	15.5	17.8	20.1	6.76	+0.02	-	7.84	0.63	59.57
	29	54.9	57.1	59.3	3.7	6.0	8.3	10.5	12.7	17.1	19.3	21.6	8.23	0.03	-	9.40	0.73	59.59
Nov.	13	52.7	54.8	57.1	1.6	3.7	6.1	8.3	10.6	14.8	17.1	19.4	6.02	0.07	-	7.37	0.88	59.60
	23	49.6	51.7	54.0	58.5	0.7	2.9	5.1	7.4	11.8	14.3	16.4	2.94	0.06	-	4.48	1.02	59.54
	25	48.7	51.0	53.1	57.7	59.9	2.1	4.3	6.5	11.0	13.3	15.6	2.11	0.07	-	3.68	1.04	59.54
Dec.	6	42.3	44.5	46.7	51.3	53.6	55.7	58.0	0.3	4.6	6.9	9.0	55.72	0.17	+	2.50	1.18	59.57
	12	38.3	40.5	42.6	47.1	49.3	51.5	53.8	56.0	0.4	2.6	4.9	51.55	0.15	-	6.64	1.25	59.59
	17	34.2	36.4	38.7	43.1	45.3	47.5	49.8	52.0	56.5	58.7	0.9	47.56	0.14	-	10.62	1.33	59.65
<i>\theta</i> PISCUM. $a_0 = 23^h 21^m 28^s.50$																		
Oct.	9	...	...	...	30.7	32.8	34.7	36.8	38.8	...	...	...	34.76	-0.01	-	6.89	+0.68	21 28.54
	16	23.4	25.3	27.4	31.6	33.6	35.6	37.7	39.9	43.9	46.1	48.0	35.68	-0.01	-	7.84	0.71	28.54
Nov.	13	22.7	24.7	26.8	30.9	32.9	35.0	37.1	39.1	43.2	45.4	47.4	35.02	-0.01	-	7.37	0.94	28.58
	23	19.8	21.8	23.9	28.0	30.0	32.0	34.0	36.1	40.3	42.4	44.6	32.08	+0.00	-	4.48	1.05	28.65
	25	18.9	21.0	22.9	27.0	29.1	31.2	33.2	35.3	39.4	41.5	43.6	31.19	0.01	-	3.68	1.07	28.59
Dec.	6	12.5	14.5	16.6	20.8	22.9	25.0	26.9	28.9	33.1	35.1	37.2	24.86	0.03	+	2.50	1.19	28.58
	12	8.2	10.3	12.4	16.5	18.5	20.6	22.6	24.8	29.0	31.0	33.1	20.64	0.02	-	6.64	1.26	28.56
	17	4.4	6.3	8.4	12.5	14.6	16.6	18.8	20.8	25.0	27.0	29.1	16.68	0.02	-	10.62	1.31	28.63
<i>\lambda</i> DRACONIS L. C.* $a_0 = 11^h 23^m 46^s.67$																		
Oct.	9	...	...	...	36.5	42.6	48.4	54.5	0.7	...	...	...	48.50	+0.03	-	6.89	+5.18	23 46.82
	16	13.4	19.3	25.2	37.6	43.6	49.3	55.3	1.5	13.6	19.3	25.7	49.44	-0.18	-	7.84	4.91	46.33
	29	15.9	21.8	27.8	40.0	46.2	52.0	57.9	4.3	16.6	22.2	27.8	52.05	0.29	-	9.40	4.30	46.66
Nov.	13	15.1	21.1	27.1	39.5	45.5	51.6	57.6	3.7	15.4	21.3	27.4	51.39	0.56	-	7.37	3.41	46.87
	23	12.7	18.9	24.8	36.7	42.9	48.7	55.0	1.0	13.0	19.0	25.0	48.88	0.45	-	4.48	2.71	46.66
	25	12.4	18.4	24.3	36.3	42.3	48.3	54.5	0.2	12.4	18.5	24.5	48.37	0.55	-	3.68	2.56	46.70
Dec.	6	7.0	13.0	19.2	31.1	37.1	43.1	49.4	55.5	7.3	13.4	19.3	43.22	1.20	+	2.50	1.74	46.26
	12	3.9	9.8	16.0	28.0	34.0	39.8	46.0	52.0	4.1	10.0	15.8	39.94	1.02	-	6.62	1.26	46.80
	17	59.9	6.2	12.1	24.3	30.5	36.3	42.4	48.5	0.3	6.6	12.4	36.32	0.99	-	10.60	0.87	46.80
	28	52.4	58.3	4.4	16.8	23.0	28.8	35.8	40.8	52.4	58.2	64.1	28.59	1.22	-	19.51	0.01	46.87
<i>\delta^3</i> AQUARI. $a_0 = 23^h 26^m 34^s.56$																		
Oct.	3	27.0	29.2	31.4	35.8	38.1	40.3	42.4	44.6	49.0	51.3	53.5	40.24	-0.04	-	6.15	+0.58	26 34.63
	16	28.7	30.8	33.0	37.4	39.7	42.0	44.1	46.3	50.7	53.0	55.1	41.89	0.05	-	7.84	0.62	34.62
	29	30.1	32.4	34.5	39.0	41.2	43.4	45.6	47.8	52.3	54.5	56.7	43.41	0.06	-	9.40	0.72	34.67
Nov.	9	...	...	...	38.0	40.3	42.5	44.6	46.8	...	...	...	42.44	0.10	-	8.60	0.83	34.57
	23	25.0	27.2	29.3	33.8	36.1	38.2	40.4	42.5	47.1	49.4	51.6	38.24	0.09	-	4.48	1.00	34.67
	25	24.2	26.3	28.6	33.0	35.1	37.6	39.6	41.7	46.3	48.4	50.7	37.41	0.10	-	3.68	1.02	34.65
	28	23.1	25.1	27.6	31.9	34.2	36.4	38.4	40.7	45.3	47.4	49.7	36.35	0.13	-	2.68	1.06	34.60
Dec.	6	18.0	20.1	22.3	26.7	28.9	31.1	33.3	35.6	40.0	42.2	44.5	31.15	0.20	+	2.50	1.16	34.61
	12	13.5	15.7	17.8	22.4	24.6	26.7	28.9	31.1	35.7	38.0	40.2	26.78	0.17	+	6.62	1.23	34.46
15 ANDROMEDÆ. $a_0 = 23^h 28^m 22^s.14$																		
Oct.	16	13.5	16.3	19.0	24.2	26.9	29.6	32.3	34.9	40.3	42.9	45.5	29.58	+0.04	-	7.84	+0.36	28 22.14
Nov.	9	14.0	16.6	19.1	24.5	27.1	30.0	32.7	35.3	40.7	43.2	45.8	29.91	0.15	-	8.60	0.64	22.10
	23	9.6	12.2	14.8	20.1	22.8	25.4	28.1	30.8	36.1	38.8	41.5	25.47	0.13	-	4.48	0.85	21.97
	25	8.7	11.4	14.0	19.3	22.0	24.7	27.3	30.0	35.4	38.0	40.6	24.67	0.16	-	3.68	0.89	22.04
	28	7.6	10.3	12.9	18.2	20.8	23.5	26.3	28.9	34.2	36.8	39.6	23.55	0.21	-	2.68	0.94	22.02
Dec.	6	...	...	...	12.9	15.7	18.2	20.8	23.6	...	...	...	18.24	0.35	+	2.50	1.08	22.17
	9	...	...	...	10.7	13.5	16.1	18.8	21.6	...	...	...	16.14	0.27	-	4.47	1.14	22.02
	12	58.1	0.6	3.3	8.6	11.3	14.0	16.7	19.3	24.6	27.2	29.8	13.95	0.30	-	6.62	1.19	22.06
	28	44.5	47.3	50.0	55.4	58.0	0.6	3.4	6.0	11.3	14.1	16.5	0.64	0.35	-	19.51	1.49	21.99

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean Reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
v PEGASI.* $\delta_0 = + 22^\circ 41' 58''.5$												
Oct. 9	18 45.7	40 1	5.8	7.5	41 6.65	41 31.60	41 16.75	-0 20.70	-1.08	+62.14	+1.16	41 58.3
16	18 43.9	40 0	59.2	59.5	40 59.35	41 27.63	41 20.72	0 21.00	1.08	61.01	0.36	60.0
29	18 46.8	40 1	4.5	59.8	41 2.15	41 28.58	41 19.77	0 21.20	1.07	61.51	-0.84	58.2
Nov. 13	18 41.7	40 1	2.7	51.5	40 57.10	41 27.11	41 21.24	0 21.75	1.00	63.10	1.54	60.0
23	18 43.2	40 1	5.7	57.3	41 1.50	41 25.85	41 22.52	0 21.98	0.95	61.64	1.64	59.6
25	18 41.9	40 1	8.1	59.2	41 3.65	41 28.60	41 19.75	0 21.57	0.95	62.92	1.64	58.5
Dec. 6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
12	18 33.8	40 1	12.7	59.0	41 5.85	41 27.96	41 20.39	0 21.90	1.02	62.36	1.14	58.7
17	18 27.3	40 1	11.1	57.2	41 4.15	41 29.22	41 19.13	0 21.49	1.03	62.70	0.84	58.5
theta PISCUM. $\delta_0 = + 5^\circ 40' 34''.2$												
Oct. 9	21 16.0	40 2	7.9	13.5	42 10.70	42 35.75	40 12.60	-0 43.13	-1.81	+62.14	+3.17	40 33.0
16	21 18.2	40 2	6.5	11.9	42 9.20	42 32.51	40 15.84	0 43.76	1.77	61.01	2.87	34.2
Nov. 13	21 12.9	40 2	6.1	0.5	42 3.30	42 32.74	40 15.61	0 45.31	1.61	63.10	3.17	35.0
23	21 13.4	40 2	7.3	3.0	42 5.15	42 30.06	40 18.29	0 45.78	1.57	61.64	3.57	36.1
25	21 21.2	40 2	22.5	18.0	42 20.25	42 33.57	40 14.78	0 44.93	1.56	62.92	3.67	34.9
Dec. 6	21 5.0	40 2	12.2	59.8	42 6.00	42 32.51	40 15.84	0 46.10	1.52	62.31	4.37	34.9
12	21 5.1	40 2	18.1	9.3	42 13.70	42 34.35	40 14.00	0 45.60	1.72	62.36	5.07	34.1
17	20 58.2	40 2	16.3	6.0	42 11.15	42 35.80	40 12.55	0 44.76	1.72	62.70	5.27	34.0
lambda DRACONIS L. C.* $\delta_0 = + 109^\circ 57' 46''.4$												
Oct. 9	24 6.8	25 3	28.0	21.0	28 24.50	28 32.81	54 15.54	+2 19.20	+1.70	+62.14	+6.54	37 45.1
16	23 11.0	25 3	52.8	46.0	28 49.40	28 31.96	54 16.39	2 21.23	1.83	61.01	3.94	44.4
29	23 0.4	25 3	59.3	46.0	28 52.65	28 29.22	54 19.13	2 22.54	1.99	61.51	-0.36	44.8
Nov. 13	23 33.5	25 3	49.1	30.3	28 39.70	28 31.57	54 16.78	2 26.22	1.95	63.10	4.76	43.3
23	23 30.1	25 3	46.7	29.6	28 38.15	28 29.61	54 18.74	2 27.72	2.02	61.64	7.26	42.9
25	24 13.6	25 3	22.4	5.7	28 14.05	28 25.49	54 22.86	2 25.02	2.10	62.92	7.76	45.1
Dec. 6	22 57.1	25 4	0.0	34.0	28 47.00	28 26.06	54 22.29	2 28.76	2.40	62.31	9.86	45.9
12	24 25.8	25 3	15.7	52.8	28 4.25	28 25.10	54 23.25	2 27.18	2.15	62.36	10.66	44.3
17	24 24.5	25 3	9.7	46.3	27 58.00	28 19.89	54 28.46	2 24.46	2.20	62.70	11.26	46.6
28	22 42.1	25 4	2.4	35.3	28 48.85	28 27.73	54 20.62	2 31.87	2.03	62.93	11.86	45.6
b3 AQUARI. $\delta_0 = - 21^\circ 37' 18''.3$												
Oct. 3	26 19.7	55 3	47.5	57.0	58 52.25	59 17.89	36 29.54	-1 55.61	-2.71	+61.57	+6.95	37 19.3
16	26 17.0	55 3	38.4	48.0	58 43.20	59 14.31	36 25.96	1 59.73	2.59	61.01	8.45	18.8
29	27 6.2	55 4	39.4	44.1	59 41.75	59 13.28	36 24.93	2 0.86	2.83	61.51	10.01	17.1
Nov. 9	27 0.3	55 4	38.7	38.7	59 38.70	59 16.43	36 28.08	2 2.11	2.44	63.04	11.30	18.3
23	26 22.1	55 3	53.6	52.7	58 53.15	59 13.18	36 24.83	2 5.24	2.32	61.64	12.66	18.1
25	26 19.7	55 3	54.7	54.2	58 54.45	59 16.47	36 28.12	2 2.95	2.30	62.92	12.98	17.5
28	26 15.8	55 3	50.1	44.1	58 47.10	59 12.61	36 24.26	2 7.02	2.29	63.69	13.45	16.5
Dec. 6	26 15.5	55 4	0.5	50.0	58 55.25	59 15.16	36 26.81	2 6.12	2.25	62.31	13.93	18.9
12	26 12.6	55 4	0.2	55.1	58 57.65	59 15.32	36 26.97	2 4.78	2.60	62.36	14.33	17.7
15 ANDROMEDÆ. $\delta^0 = + 39^\circ 31' 51''.7$												
Oct. 16	28 3.4	50 1	27.4	28.7	51 28.05	51 55.10	30 53.25	-0 2.92	-0.52	+61.01	-0.92	31 49.9
Nov. 9	28 5.6	50 1	30.4	22.1	51 26.25	51 51.34	30 57.01	0 2.98	0.36	63.04	4.58	52.1
23	28 4.9	50 1	34.9	26.2	51 30.55	51 51.82	30 56.53	0 3.06	0.33	61.64	5.72	49.1
25	28 41.2	50 2	13.4	3.9	52 8.65	51 51.72	30 56.63	0 3.00	0.30	62.92	5.83	50.4
28	27 56.7	50 1	33.0	18.0	51 25.50	51 53.28	30 55.07	0 3.10	0.38	63.69	5.69	49.6
Dec. 6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
9	28 28.1	50 2	10.9	56.0	52 3.45	51 51.06	30 57.29	0 3.09	0.22	62.24	6.03	50.2
12	27 55.0	50 1	39.3	25.4	51 32.35	51 51.97	30 56.38	0 3.05	0.40	62.36	5.96	49.3
28	28 22.8	50 2	23.5	6.2	52 14.85	51 51.93	30 56.42	0 3.15	0.54	62.93	5.04	50.6

Date.	Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
1871.	1	2	3	4	5	6	7	8	9	10	11						
λ ANDROMEDÆ.* $a_0 = 23^h 31^m 18^s.36$																	
Oct. 16	8.3	11.0	13.9	19.9	22.9	25.8	28.8	31.8	37.5	40.6	43.5	25.82	+0.06	—	7.85	+0.21	31 18.24
29	...	...	...	21.4	24.2	27.2	30.1	33.2	...	...	...	27.22	0.10	9.40	0.36	18.28	
Nov. 9	8.4	11.6	14.4	20.2	23.2	26.1	29.1	32.1	38.0	40.9	43.8	26.16	0.20	8.59	0.53	18.30	
23	4.0	7.0	10.0	16.0	18.9	21.6	24.7	27.8	33.7	36.6	39.5	21.80	0.16	4.47	0.78	18.27	
25	3.2	6.2	9.2	15.0	18.0	21.0	24.0	26.9	32.7	35.6	38.6	20.94	0.20	3.68	0.82	18.28	
28	2.2	5.1	8.0	14.1	16.8	19.8	22.7	25.6	31.5	34.6	37.6	19.82	0.27	—	2.68	0.88	18.29
Dec. 9	54.6	57.6	0.4	6.3	9.3	12.3	15.2	18.2	23.9	26.8	30.0	12.24	0.34	+	4.49	1.10	18.17
12	52.4	55.4	58.3	4.2	7.2	10.1	13.1	16.0	21.8	24.8	27.7	10.09	0.38	6.63	1.16	18.26	
17	48.4	51.3	54.3	0.0	3.0	5.9	9.0	11.9	17.8	20.8	23.7	6.01	0.37	10.63	1.27	18.28	
28	39.0	42.2	44.8	50.7	54.0	56.9	59.6	2.7	8.7	11.6	14.5	56.79	0.45	19.54	1.50	18.28	
ι PISCUM.* $a_0 = 23^h 33^m 22^s.03$																	
Nov. 23	13.3	15.3	17.4	21.5	23.5	25.7	27.6	29.7	33.8	35.8	37.9	25.59	+0.00	—	4.47	+0.99	33 22.11
Dec. 6	6.2	8.2	10.2	14.3	16.4	18.4	20.4	22.6	26.7	28.8	30.8	18.45	0.03	+	2.50	1.13	22.11
9	...	...	...	16.3	18.3	20.5	22.5	24.5	26.5	...	...	16.42	0.02	4.49	1.16	22.07	
12	2.0	4.0	6.1	10.0	12.1	14.1	16.2	18.3	22.4	24.5	26.5	14.20	0.02	6.63	1.20	22.05	
20	56.0	58.0	0.1	4.2	6.2	8.3	10.4	12.5	16.5	18.6	20.7	8.32	0.01	12.46	1.29	22.08	
γ CEPHEI.* $a_0 = 23^h 34^m 6^s.66$																	
Oct. 16	23.4	32.0	41.0	59.1	8.5	17.7	26.3	35.8	54.1	3.0	12.0	17.54	+0.26	—	7.85	—3.03	34 6.92
29	...	...	...	59.5	8.9	17.8	27.1	36.3	...	...	...	17.92	0.44	9.40	2.42	6.54	
Nov. 25	15.4	24.5	33.8	52.3	1.0	10.2	19.7	28.1	46.4	55.5	4.7	10.15	0.85	3.68	0.51	6.81	
28	13.8	23.6	32.5	50.6	59.6	8.8	18.4	27.2	44.7	54.3	3.3	8.80	1.14	—	2.68	—0.27	6.99
Dec. 17	58.7	7.8	16.8	34.8	43.9	53.1	2.2	11.3	29.4	38.6	47.6	53.11	1.55	+10.63	+1.40	6.69	
20	...	...	...	...	...	...	...	...	27.4	36.5	46.9	51.17	1.34	12.46	1.66	6.63	
28	48.0	57.6	6.4	24.2	34.2	43.1	51.4	1.4	18.6	28.5	36.8	42.75	1.90	19.54	2.39	6.58	
ϵ^1 AQUARI. $a_0 = 23^h 37^m 33^s.64$																	
Oct. 16	27.9	30.0	32.3	36.7	38.9	41.0	43.1	45.4	49.7	51.9	54.0	40.99	—0.04	—	7.85	+0.60	37 33.70
29	29.5	31.6	33.8	38.2	40.2	42.5	44.6	46.8	51.2	53.4	55.5	42.48	0.06	9.40	0.68	33.70	
Nov. 28	22.6	24.6	26.7	31.3	33.2	35.5	37.6	39.8	44.2	46.3	48.3	35.46	0.11	—	2.68	0.99	33.66
Dec. 6	17.2	19.4	21.7	25.9	28.1	30.3	32.5	34.7	38.9	41.1	43.3	30.28	0.17	+	2.50	1.08	33.69
9	14.6	17.3	19.4	24.0	26.0	28.1	30.3	32.5	36.7	39.2	41.3	28.13	0.14	4.47	1.12	33.58	
12	13.0	15.1	17.3	21.6	23.9	26.0	28.2	30.3	34.7	37.0	39.0	26.01	0.15	6.63	1.15	33.64	
17	9.2	11.4	13.4	17.9	20.0	22.1	24.3	26.4	30.7	32.9	35.1	22.13	0.14	10.63	1.21	33.83	
20	7.1	9.1	11.3	15.8	18.0	20.1	22.2	24.5	28.7	30.9	33.2	20.08	0.13	12.46	1.25	33.66	
28	0.0	2.0	4.2	8.7	11.0	12.9	15.1	17.3	21.5	23.7	25.9	12.94	0.17	19.54	1.34	33.65	
ψ ANDROMEDÆ. $a_0 = 23^h 39^m 41^s.87$																	
Oct. 16	31.7	34.6	37.5	43.6	46.6	49.6	52.4	55.3	1.3	4.1	7.1	49.44	+0.06	—	7.85	+0.20	39 41.85
29	33.1	36.0	39.0	44.8	47.8	50.8	53.5	56.7	2.5	5.4	8.6	50.75	0.10	9.40	0.34	41.79	
Nov. 9	32.1	35.1	38.0	43.9	46.9	49.8	52.6	55.5	1.4	4.4	7.3	49.73	0.19	8.59	0.50	41.83	
28	25.7	28.6	31.4	37.5	40.3	43.5	46.2	49.3	55.2	58.3	0.9	43.35	0.26	—	2.68	0.84	41.77
Dec. 6	20.3	23.1	26.0	32.0	34.9	37.8	40.8	43.6	49.6	52.7	55.5	37.85	0.44	+	2.50	0.99	41.78
9	18.3	21.3	24.1	30.0	32.9	35.8	38.8	41.8	47.6	50.7	53.7	35.91	0.34	4.47	1.06	41.78	
12	16.0	18.9	21.8	27.7	30.6	33.6	36.5	39.6	45.5	48.4	51.3	33.63	0.37	6.63	1.12	41.75	
17	11.9	15.0	17.9	23.7	26.7	29.7	32.5	35.5	41.5	44.4	47.3	29.65	0.36	10.63	1.22	41.86	
20	10.0	13.0	16.0	21.8	24.8	27.7	30.7	33.6	39.5	42.5	45.3	27.72	0.31	12.46	1.29	41.78	
28	2.6	5.5	8.5	14.3	17.2	20.2	23.1	26.3	32.2	35.1	37.9	20.26	0.45	19.54	1.45	41.70	

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
λ ANDROMEDÆ.* $\delta_0 = + 45^\circ 45' 52''.3$												
Oct. 16	30 52.9	35 2	29.7	29.5	37 29.60	38 00.32	44 48.03	+0 3.48	-0.57	+61.01	-1.16	45 50.8
29	31 46.8	35 3	17.8	11.9	38 14.85	37 56.55	44 51.80	0 3.51	0.54	61.51	3.76	52.5
Nov. 9	31 31.4	35 3	6.3	56.4	38 1.35	37 56.49	44 51.86	0 3.55	0.12	63.04	5.46	52.9
23	31 0.2	35 2	40.8	30.3	37 35.55	37 55.72	44 52.63	0 3.64	0.16	61.64	6.96	50.8
25	31 42.5	35 3	19.2	9.2	38 14.20	37 54.03	44 54.32	0 3.57	0.10	62.92	7.16	53.5
28	31 0.9	35 2	47.7	32.0	37 39.85	37 57.50	44 50.85	0 3.69	0.07	63.69	7.26	50.9
Dec. 9	30 51.8	35 2	41.8	27.0	37 34.40	37 53.45	44 54.90	0 3.67	0.04	62.24	7.56	53.2
12	30 45.0	35 2	39.7	25.0	37 32.35	37 55.79	44 52.56	0 3.62	0.37	62.36	7.56	50.6
17	30 37.1	35 2	37.0	19.2	37 28.10	37 55.09	44 53.26	0 3.56	0.43	62.70	7.46	51.6
28	30 26.3	35 2	38.0	19.0	37 28.50	37 56.98	44 51.37	0 3.74	0.34	62.93	6.66	51.0
ι PISCUM.* $\delta_0 = + 4^\circ 55' 57''.3$												
Nov. 23	33 6.2	25 1	41.8	37.2	26 39.50	27 5.37	55 42.98	-0 47.03	-1.55	+61.64	+3.77	55 59.8
Dec. 6	33 0.9	25 1	51.0	38.0	26 44.50	27 7.97	55 40.38	0 47.37	1.52	62.31	4.47	58.3
9	33 34.6	25 2	37.7	27.0	27 32.35	27 8.07	55 40.28	0 47.50	1.55	62.24	4.67	58.1
12	32 51.1	25 1	42.3	31.8	26 37.05	27 7.86	55 40.49	0 46.87	1.67	62.36	4.87	59.2
20	32 49.9	25 1	52.0	37.3	26 44.65	27 9.19	55 39.16	0 47.32	1.67	63.08	5.47	58.7
γ CEPHEI.* $\delta_0 = + 76^\circ 55' 4''.3$												
Oct. 16	33 1.5	25 4	5.1	59.2	29 2.15	29 25.18	53 23.17	+0 40.42	+0.01	+61.01	+0.07	55 4.7
29	33 47.5	25 4	18.7	8.8	29 13.75	29 22.96	53 25.39	0 40.82	0.50	61.51	-4.03	4.2
Nov. 25	33 5.0	25 4	6.2	51.1	28 58.65	29 18.38	53 29.97	0 41.49	0.60	62.92	10.03	4.9
28	33 45.4	25 4	25.0	4.0	29 14.50	29 21.59	53 26.76	0 42.87	0.70	63.69	10.53	3.5
Dec. 17	32 42.2	25 4	4.6	43.4	28 54.00	29 15.49	53 32.86	0 41.35	0.22	62.70	12.23	4.9
20	34 59.6	25 4	51.0	28.0	29 39.50	29 18.77	53 29.58	0 42.52	0.13	63.08	12.33	3.0
28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
ι^1 AQUARI. $\delta_0 = - 18^\circ 59' 14''.6$												
Oct. 16	37 20.7	20 0	52.2	61.2	20 56.70	21 22.39	58 34.04	-1 47.14	-2.14	+61.01	+7.60	59 14.7
29	37 24.5	20 0	55.6	58.7	20 57.15	21 19.93	58 31.58	1 48.21	2.17	61.51	9.07	11.4
Nov. 28	37 17.5	20 1	3.1	54.6	20 58.85	21 21.63	58 33.28	1 53.68	2.07	63.69	12.30	13.0
Dec. 6	37 16.4	20 1	10.2	59.0	21 4.60	21 22.19	58 33.84	1 52.88	2.08	62.31	12.97	13.5
9	37 14.6	20 1	10.6	3.7	21 7.15	21 24.24	58 35.89	1 53.19	2.08	62.24	13.19	15.7
12	37 7.5	20 1	3.2	56.4	20 59.80	21 23.22	58 34.87	1 51.69	2.14	62.36	13.41	12.9
17	37 43.8	20 1	58.7	50.3	21 54.50	21 27.03	58 38.68	1 49.62	2.24	62.70	13.75	14.1
20	36 59.4	20 1	4.8	54.0	20 59.40	21 25.60	58 37.25	1 52.76	2.12	63.08	13.92	15.1
28	37 2.7	20 1	12.2	3.4	21 7.80	21 20.71	58 32.36	1 55.23	2.20	62.93	14.29	12.6
ψ ANDROMEDÆ. $\delta_0 = + 45^\circ 42' 35''.0$												
Oct. 16	39 18.0	40 0	49.2	48.8	40 49.00	41 18.36	41 29.99	+0 3.42	-0.27	+61.01	-0.61	42 33.5
29	40 10.4	40 1	34.8	30.2	41 32.50	41 14.08	41 34.27	0 3.45	0.25	61.51	3.33	35.6
Nov. 9	39 21.1	40 0	53.2	45.0	40 49.10	41 15.84	41 32.51	0 3.49	0.16	63.04	5.13	33.7
28	39 19.8	40 1	1.8	44.0	40 52.90	41 14.97	41 33.38	0 3.63	0.07	63.69	7.08	33.6
Dec. 6	39 9.1	40 0	56.8	37.8	40 47.30	41 14.13	41 34.22	0 3.60	0.13	62.31	7.41	32.6
9	39 10.4	40 0	57.2	41.8	40 49.50	41 13.34	41 35.01	0 3.61	0.07	62.24	7.42	33.4
12	39 6.6	40 0	54.2	39.7	40 46.95	41 12.19	41 36.16	0 3.57	0.17	62.36	7.43	34.5
17	39 0.8	40 0	54.4	38.0	40 46.20	41 13.13	41 35.22	0 3.50	0.20	62.70	7.38	33.8
20	39 3.8	40 1	0.3	41.6	40 50.95	41 13.29	41 35.06	0 3.60	0.13	63.08	7.28	34.3
28	38 58.1	40 1	0.6	42.1	40 51.35	41 12.11	41 36.24	0 3.68	0.11	62.93	6.80	35.9

Date. 1871.	Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
	1	2	3	4	5	6	7	8	9	10	11						
δ SCULPTORIS. $a_0 = 23^h 42^m 15^s.22$																	
Nov. 9	9.5	11.8	14.1	18.7	21.1	23.4	25.8	28.2	32.8	35.2	37.6	23.47	-0.14	-	8.59	+0.68	42 15.42
Dec. 6	58.0	0.3	2.6	7.3	9.8	12.1	14.3	16.7	21.5	23.8	26.2	12.05	0.26	+	2.50	1.02	15.31
9	55.9	58.2	0.6	5.3	7.7	10.1	12.1	14.5	19.3	21.7	24.0	9.95	0.21		4.47	1.07	15.28
12	53.9	56.1	58.4	3.0	5.5	7.7	10.1	12.5	17.2	19.6	22.0	7.82	0.23		6.63	1.11	15.33
17	50.3	52.2	54.5	59.0	1.6	3.6	6.2	8.5	13.2	15.6	18.1	3.89	0.22		10.63	1.17	15.47
20	47.7	50.2	52.6	57.3	59.7	2.0	4.3	6.5	11.3	13.7	15.9	1.93	0.20		12.46	1.21	15.40
28	40.8	43.1	45.4	50.0	52.5	54.7	57.0	59.5	4.1	6.5	8.8	54.76	0.27		19.54	1.32	15.35
Pr. XXIII. 204. $a_0 = 23^h 43^m 59^s.35$																	
Oct. 16	47.3	50.6	54.0	0.5	3.6	6.9	10.2	13.4	19.9	23.3	26.4	6.92	+0.07	-	7.85	+0.04	43 59.18
29	48.8	52.0	55.2	1.6	4.9	8.1	11.5	14.8	21.3	24.6	27.9	8.25	0.12		9.40	0.19	59.16
Nov. 7	48.0	51.1	54.4	0.8	4.1	7.3	10.7	13.8	20.4	23.7	27.0	7.39	0.27		8.93	0.33	59.06
9	47.6	50.8	54.1	0.6	4.0	7.1	10.5	13.7	20.3	23.2	26.7	7.15	0.24	-	8.59	0.37	59.17
Dec. 6	...	...	...	48.6	51.8	55.0	58.3	1.6	...	...	...	55.06	0.53	+	2.50	0.94	59.03
9	33.7	37.0	40.2	46.7	49.9	53.2	56.4	59.8	6.3	9.6	12.8	53.24	0.41		4.46	1.01	59.12
20	25.3	28.7	32.0	38.4	41.6	45.0	48.2	51.3	58.0	1.3	4.6	44.95	0.38		12.45	1.28	59.06
28	17.9	21.1	24.4	30.8	34.0	37.5	40.8	44.0	50.6	54.1	57.1	37.48	0.54		19.52	1.48	59.02
ϕ PEGASI.* $a_0 = 23^h 45^m 58^s.69$																	
Oct. 3	...	...	...	59.9	2.1	4.3	6.4	8.6	...	...	...	4.26	+0.00	-	6.15	+0.57	45 58.68
16	53.0	55.0	57.2	1.6	3.8	6.0	8.1	10.3	14.6	16.7	18.8	5.92	0.01		7.85	0.59	58.67
Nov. 7	53.7	56.0	58.2	2.4	4.6	6.7	8.9	11.2	15.4	17.6	19.8	6.77	0.06		8.93	0.73	58.63
9	53.6	55.7	57.8	2.1	4.3	6.6	8.7	10.9	15.1	17.3	19.4	6.50	0.05	-	8.59	0.74	58.70
Dec. 6	42.0	44.2	46.3	50.6	52.9	55.1	57.2	59.4	3.6	5.9	8.1	55.03	0.13	+	2.51	1.03	58.70
9	40.0	42.1	44.4	48.6	50.8	53.0	55.1	57.4	1.6	4.0	6.1	53.01	0.10		4.46	1.07	58.64
12	37.8	40.0	42.2	46.5	48.6	50.8	53.0	55.1	59.4	1.5	3.8	50.79	0.11		6.63	1.10	58.63
17	33.9	36.0	38.2	42.5	44.7	46.8	48.9	51.1	55.5	57.6	59.8	46.82	0.11		10.61	1.16	58.70
20	32.0	34.1	36.3	40.6	42.7	44.9	47.1	49.2	53.6	55.7	57.8	44.91	0.09		12.46	1.21	58.67
ρ CASSIOPEÆ.* $a_0 = 23^h 47^m 59^s.82$																	
Oct. 3	43.9	47.5	51.2	58.7	2.5	6.2	10.0	13.8	21.1	25.0	28.8	6.24	+0.06	-	6.15	-0.33	47 59.82
16	45.4	49.0	53.0	0.4	4.1	8.0	11.4	15.2	23.0	26.7	30.5	7.88	0.09		7.85	-0.22	59.90
Nov. 7	45.7	49.4	53.3	0.8	4.5	8.3	12.1	15.8	23.4	27.0	30.8	8.28	0.34		8.93	+0.12	59.81
9	45.6	49.1	53.0	0.6	4.1	8.0	11.6	15.5	23.0	27.0	30.6	8.01	0.30		8.59	0.17	59.89
28	39.2	42.8	46.6	54.0	57.9	1.4	5.1	8.9	16.4	20.3	24.1	1.52	0.40	-	2.67	0.63	59.88
Dec. 6	33.4	37.1	40.9	48.5	52.0	55.9	59.6	3.3	10.8	14.6	18.3	55.85	0.66	+	2.51	0.88	59.90
9	...	...	...	46.4	50.1	53.8	57.8	1.5	...	...	...	53.92	0.52		4.47	0.95	59.86
12	29.2	32.7	36.7	44.3	48.0	51.7	55.5	59.2	6.8	10.5	14.3	51.72	0.56		6.64	1.02	59.94
17	25.0	28.7	32.4	40.0	43.7	47.5	51.3	55.1	2.5	6.4	10.0	47.51	0.55		10.62	1.18	59.86
20	23.0	27.0	30.5	38.2	42.0	45.7	49.4	53.1	0.6	4.3	8.3	45.65	0.47		12.46	1.27	59.85
B. A. C. 8322. $a_0 = 23^h 50^m 42^s.28$																	
Nov. 7	29.1	32.7	36.0	43.2	46.8	50.4	53.9	57.6	4.6	8.6	11.8	50.43	+0.32	-	8.93	+0.18	50 42.00
9	28.6	32.1	35.7	42.9	46.5	50.1	53.6	57.1	4.3	8.0	11.7	50.05	0.28	-	8.59	0.22	41.96
28	22.3	25.6	29.2	36.4	39.8	43.6	47.3	51.0	58.0	1.6	5.1	43.63	0.37	-	2.67	0.64	41.97
Dec. 6	16.5	20.1	23.7	31.0	34.5	37.9	41.6	45.2	52.5	56.0	59.6	38.05	0.62	+	2.51	0.85	42.03
9	14.5	18.1	21.7	28.9	32.5	35.9	39.5	43.2	50.3	53.8	57.5	35.99	0.48		4.47	0.93	41.87
12	12.3	15.8	19.3	26.6	30.3	33.7	37.3	40.8	47.9	51.7	55.2	33.72	0.53		6.64	1.01	41.90
17	8.1	11.7	15.3	22.5	26.1	29.7	33.3	36.8	44.0	47.6	51.1	29.65	0.51		10.62	1.15	41.93
20	6.4	9.8	13.5	20.7	24.1	27.8	31.4	35.1	42.1	45.7	49.4	27.82	0.44		12.46	1.24	41.96

Date. 1871.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
δ SCULPTORIS. $= -28^{\circ} 50' 17''.5$												
Nov. 9	42 0.2	10 0	56.7	53.9	10 55.30	11 22.62	48 34.27	-2 54.16	-2.18	+63.04	+13.14	50 14.4
Dec. 6	42 31.5	10 1	50.1	38.2	11 44.15	11 21.40	48 33.05	2 59.99	2.24	62.31	16.23	16.7
9	41 48.1	10 0	59.5	50.1	10 54.80	11 20.36	48 32.01	2 60.49	2.17	62.24	16.46	16.0
12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
20	41 45.7	10 1	9.7	55.6	11 2.65	11 21.64	48 33.29	2 59.87	2.31	63.08	17.12	15.3
28	41 36.1	10 1	0.6	49.2	10 54.90	11 16.71	48 28.36	2 63.73	2.29	62.93	17.39	14.1
Pr. XXIII. 204. $\delta_0 = +50^{\circ} 54' 39''.2$												
Oct. 16	43 27.4	25 3	47.6	45.2	28 46.40	29 19.77	53 28.58	+0 8.82	-0.67	+61.01	-0.46	54 37.3
29	43 38.5	25 3	55.3	47.4	28 51.35	29 16.43	53 31.92	0 8.91	0.55	61.51	3.46	38.3
Nov. 7	43 42.1	25 4	3.0	48.9	28 55.95	29 17.31	53 31.04	0 8.96	0.13	63.21	5.56	37.5
9	43 33.0	25 3	53.2	41.2	28 47.20	29 16.08	53 32.27	0 8.99	-0.26	63.04	5.57	38.5
Dec. 6	44 6.0	25 4	33.2	12.4	29 22.80	29 13.60	53 34.75	0 9.08	+0.15	62.31	8.42	37.9
9	44 20.7	25 4	45.0	27.4	29 36.20	29 13.06	53 35.29	0 9.31	-0.03	62.24	8.52	38.3
20	43 20.9	25 4	4.8	43.9	28 54.35	29 15.12	53 33.23	0 9.28	-0.32	63.08	8.52	36.7
28	43 58.7	25 4	43.1	23.2	29 33.15	29 15.25	53 33.10	0 9.48	-0.40	62.93	8.13	37.0
ϕ PEGASI.* $\delta_0 = +18^{\circ} 24' 33''.9$												
Oct. 3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
16	45 46.4	55 3	22.9	28.0	58 25.45	58 50.22	23 58.13	-0 26.14	-1.55	+61.01	+1.49	24 32.9
Nov. 7	45 45.9	55 3	25.9	18.8	58 22.35	58 48.90	23 59.45	0 26.54	1.28	63.21	0.09	34.9
9	45 46.3	55 3	25.3	20.6	58 22.95	58 48.61	23 59.74	0 26.64	1.27	63.04	-0.01	34.9
Dec. 6	45 42.4	55 3	40.6	27.0	58 33.80	58 49.80	23 58.55	0 27.52	1.11	62.31	0.01	32.2
9	46 9.6	55 4	15.3	4.0	59 9.65	58 48.56	23 59.79	0 27.60	1.15	62.24	+0.09	33.4
12	45 29.8	55 3	27.0	17.7	58 22.35	58 49.02	23 59.33	0 27.24	1.46	62.36	0.29	33.3
17	45 24.2	55 3	26.9	14.1	58 20.50	58 49.21	23 59.14	0 26.74	1.46	62.70	0.59	34.2
20	45 26.6	55 3	34.6	21.6	58 27.80	58 51.05	23 57.30	0 27.51	1.44	63.08	0.79	32.2
ρ CASSIOPEÆ.* $\delta_0 = +56^{\circ} 47' 13''.7$												
Oct. 3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
16	47 36.1	35 1	28.8	26.4	36 27.60	36 50.92	45 57.43	+0 15.10	+0.10	+61.01	-0.18	47 13.5
Nov. 7	47 30.4	35 1	27.1	13.6	36 20.35	36 48.14	46 0.21	0 15.34	-0.02	63.21	5.48	13.3
9	47 34.3	35 1	28.9	15.8	36 22.35	36 47.06	46 1.29	0 15.40	+0.16	63.04	5.58	14.3
28	47 23.6	35 1	28.8	9.9	36 19.35	36 47.15	46 1.20	0 16.01	0.13	63.69	8.68	12.4
Dec. 6	47 27.4	35 1	34.7	13.0	36 23.85	36 44.75	46 3.60	0 15.90	0.30	62.31	9.38	12.7
9	48 10.6	35 2	6.2	47.3	36 56.75	36 44.50	46 3.85	0 15.95	0.41	62.24	9.58	12.9
12	47 24.5	35 1	30.8	14.0	36 22.40	36 42.35	46 6.00	0 15.74	0.21	62.36	9.68	14.6
17	48 16.4	35 2	13.3	55.3	37 4.30	36 43.11	46 5.24	0 15.45	0.08	62.70	9.78	13.7
20	47 17.8	35 1	36.0	14.0	36 25.00	36 45.39	46 2.96	0 15.90	0.19	63.08	9.78	12.4
B. A. C. 8322. $\delta_0 = +54^{\circ} 59' 37''.0$												
Nov. 7	50 10.7	20 3	59.8	44.3	23 52.05	24 22.56	58 25.79	+0 13.36	-0.21	+63.21	-5.27	59 36.9
9	50 8.9	20 3	56.4	43.8	23 50.10	24 22.42	58 25.93	0 13.41	0.23	63.04	5.37	36.8
28	50 7.2	20 4	2.5	43.9	23 53.20	24 21.17	58 27.18	0 13.95	0.05	63.69	8.57	36.2
Dec. 6	51 5.5	20 4	51.5	28.7	24 40.10	24 19.04	58 29.31	0 13.86	+0.14	62.31	9.07	36.6
9	50 10.4	20 4	7.8	49.0	23 58.40	24 18.07	58 30.28	0 13.90	0.19	62.24	9.23	37.4
12	50 1.0	20 4	1.2	43.7	23 52.45	24 17.58	58 30.77	0 13.71	-0.27	62.36	9.34	37.2
17	49 57.6	20 4	2.2	44.6	23 53.40	24 18.07	58 30.28	0 13.46	0.25	62.70	9.41	36.8
20	49 59.6	20 4	9.0	47.4	23 58.20	24 19.87	58 28.48	0 13.85	0.20	63.08	9.40	35.8

Date. 1871-2.		Right Ascension Wires.											Seconds of Transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
		1	2	3	4	5	6	7	8	9	10	11						
ω PISCUM.* $a_0 = 23^h 52^m 44^s.30$																		
Oct.	3	s. ...	s. ...	s. ...	s. 45.7	s. 47.8	s. 50.0	s. 52.0	s. 53.9	s. ...	s. ...	s. ...	s. 49.88	s. -0.01	s. -	s. 6.15	s. +0.62	m. 52 s. 44.34
Nov.	7	40.2	42.2	44.3	48.5	50.5	52.5	54.5	56.6	0.7	2.7	4.9	52.51	+0.01	-	8.93	0.74	44.33
	9	39.9	42.0	44.0	48.1	50.1	52.2	54.3	56.4	0.4	2.6	4.7	52.25	0.01	-	8.59	0.76	44.43
Dec.	6	...	...	...	36.6	38.7	40.8	42.8	44.9	...	...	...	40.76	0.03	+	2.51	1.00	44.30
	9	26.6	28.4	30.5	34.7	36.8	38.8	40.9	43.0	47.0	49.2	51.3	38.84	0.02		4.47	1.03	44.36
	12	24.3	26.3	28.3	32.4	34.5	36.6	38.5	40.7	44.8	46.8	49.0	36.56	0.03		6.64	1.06	44.29
	17	20.3	22.3	24.3	28.4	30.5	32.6	34.6	36.7	40.9	42.9	45.0	32.59	0.02		10.62	1.12	44.35
	20	18.3	20.4	22.5	26.6	28.7	30.8	32.8	34.9	39.1	41.1	43.2	30.76	0.02		12.46	1.15	44.39
30 PISCUM. $a_0 = 23^h 55^m 23^s.70$																		
Nov.	2	20.4	22.4	24.5	28.6	30.6	32.7	34.8	36.8	40.8	43.1	45.1	32.71	-0.04	-	9.65	+0.67	55 23.69
	19	16.0	18.2	20.2	24.3	26.4	28.5	30.5	32.6	36.7	38.8	40.8	28.45	0.06	-	5.47	0.80	23.72
Dec.	6	7.9	10.0	12.1	16.2	18.2	20.2	22.4	24.5	28.6	30.7	32.7	20.32	0.07	+	2.51	0.97	23.73
	9	5.6	7.8	9.9	14.2	16.2	18.2	20.3	22.3	26.4	28.6	30.7	18.20	0.06		4.47	1.01	23.62
	17	59.7	1.5	3.9	7.8	10.0	12.1	14.2	16.2	20.4	22.5	24.5	12.07	0.06		10.62	1.09	23.72
	20	57.7	59.8	1.9	6.1	8.1	10.3	12.3	14.3	18.5	20.6	22.6	10.20	0.06		12.46	1.12	23.72
	28	50.8	52.8	54.8	58.9	0.9	3.0	4.9	7.0	11.2	13.3	15.4	3.00	0.07		19.53	1.21	23.67
2 CETI. $a_0 = 23^h 57^m 10^s.83$																		
Nov.	2	7.0	9.2	11.4	15.6	17.8	20.0	22.2	24.4	28.7	30.8	32.9	20.00	-0.08	-	9.65	+0.62	57 10.89
	22	1.8	4.1	6.2	10.7	12.7	14.9	17.1	19.2	23.7	25.7	27.9	14.91	0.10	-	4.61	0.79	10.99
Dec.	9	52.5	54.8	56.9	1.2	3.3	5.6	7.7	9.8	14.1	16.4	18.5	5.53	0.13	+	4.47	0.98	10.85
	17	46.5	48.5	50.7	55.0	57.2	59.3	1.5	3.7	8.0	10.1	12.4	59.35	0.14		10.62	1.07	10.90
	20	44.5	46.7	48.8	53.1	55.3	57.4	59.7	2.0	6.3	8.3	10.4	57.50	0.12		12.46	1.11	10.95
	28	37.5	39.7	41.9	46.2	48.3	50.4	52.5	54.7	59.0	1.3	3.3	50.44	0.16		19.53	1.20	11.01
33 PISCUM. $a_0 = 23^h 58^m 46^s.99$																		
Nov.	2	43.8	45.7	47.8	51.9	54.0	56.1	58.3	0.3	4.3	6.4	8.5	56.10	-0.04	-	9.65	+0.66	58 47.07
	19	39.4	41.5	43.5	47.6	49.6	51.8	53.8	55.9	0.0	2.2	4.2	51.77	0.05	-	5.47	0.79	47.04
Dec.	9	29.2	31.2	33.4	37.5	39.7	41.6	43.6	45.7	49.9	52.0	54.0	41.62	0.06	+	4.47	0.99	47.02
	17	23.0	24.6	27.2	31.3	33.2	35.3	37.5	39.5	43.7	45.7	47.8	35.32	0.06		10.62	1.07	46.95
	20	...	...	...	29.3	31.3	33.4	35.6	37.7	...	...	...	33.46	0.05		12.46	1.11	46.98
	28	13.8	16.1	18.2	22.2	24.5	26.4	28.6	30.5	34.4	36.6	38.6	26.35	0.07		19.53	1.20	47.01
α ANDROMEDÆ.* $a_0 = 0^h 1^m 46^s.46$																		
Nov.	2	41.5	43.8	46.0	50.8	53.1	55.4	57.7	0.1	4.8	7.1	9.5	55.44	+0.08	-	9.65	+0.59	1 46.46
	19	37.1	39.4	41.7	46.4	48.7	51.1	53.4	55.8	0.4	2.9	5.2	51.10	0.17	-	5.56	0.74	46.45
	22	36.3	38.6	41.0	45.7	48.0	50.3	52.6	54.9	59.6	1.9	4.4	50.30	0.12		4.61	0.77	46.58
	29	33.6	35.9	38.3	42.9	45.3	47.7	49.8	52.4	56.9	59.5	1.5	47.62	0.14	-	2.14	0.86	46.48
Dec.	6	28.7	31.1	33.4	38.1	40.5	42.9	45.2	47.6	52.1	54.5	56.8	42.81	0.18	+	2.49	0.94	46.42
	9	26.8	29.1	31.4	36.1	38.4	40.8	43.0	45.5	50.0	52.5	54.8	40.76	0.17		4.47	0.98	46.38
	12	24.6	27.0	29.3	34.0	36.3	38.6	41.0	43.3	48.0	50.4	52.7	38.65	0.19		6.64	1.01	46.49
	17	20.5	22.8	25.2	29.8	32.2	34.5	36.8	39.2	43.9	46.2	48.5	34.51	0.19		10.62	1.09	46.41
	20	18.7	21.0	23.3	28.0	30.4	32.8	35.1	37.4	42.0	44.4	46.8	32.72	0.16		12.45	1.13	46.46
	28	11.4	13.7	16.2	20.8	23.3	25.5	27.8	30.1	34.7	37.1	39.4	25.46	0.23		19.53	1.26	46.48
Jan.	2	6.7	9.0	11.2	16.0	18.3	20.6	22.9	25.2	30.0	32.3	34.7	20.63	0.19		24.36	1.32	46.50

Date. 1871-2.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.		
			E.	G.*										
ω PISCUM.* $\delta_0 = + 6^\circ 9' 16''.4$														
	m.	s.	'	'	"	"	'	"	'	"	"	"	'	"
Oct. 3														
Nov. 7	52 27.5	10 3	20.8	15.6	13 18.20	13 51.49	8 56.86	-0 43.72	-1.68	+63.21	+3.14	9 17.8		
9	52 31.7	10 3	27.2	22.9	13 25.05	13 52.34	8 56.01	0 43.89	1.68	63.04	3.14	16.6		
Dec. 6	52 50.2	10 4	9.9	57.5	14 3.70	13 51.19	8 57.16	0 45.34	1.56	62.31	4.24	16.8		
9	52 23.8	10 3	35.0	24.2	13 29.60	13 49.57	8 58.78	0 45.48	1.54	62.24	4.44	18.4		
12	52 16.3	10 3	27.6	18.8	13 23.20	13 50.22	8 58.13	0 44.87	1.85	62.36	4.64	18.4		
17	52 16.9	10 3	38.2	26.2	13 32.20	13 53.10	8 55.25	0 44.05	1.85	62.70	4.94	17.0		
20	52 12.3	10 3	35.3	19.6	13 27.45	13 52.07	8 56.28	0 45.33	1.85	63.08	5.04	17.2		
30 PISCUM. $\delta_0 = - 6^\circ 43' 31''.9$														
Nov. 2	55 14.7	5 0	52.9	52.8	5 52.85	6 16.91	43 28.56	-1 8.77	-1.91	+63.40	+6.03	43 29.8		
19	55 18.6	5 1	9.1	6.8	6 7.95	6 20.98	43 32.63	1 9.94	1.83	63.05	7.51	33.8		
Dec. 6	55 38.3	5 1	46.9	36.3	6 41.60	6 17.67	43 29.32	1 11.39	1.83	62.31	8.62	31.6		
9	55 38.9	5 1	50.2	41.3	6 45.75	6 18.36	43 30.01	1 11.61	1.82	62.24	8.84	32.4		
17	54 52.1	5 1	0.1	51.2	5 55.65	6 22.38	43 34.03	1 9.34	1.87	62.70	9.41	33.1		
20	54 51.2	5 1	0.4	47.5	5 53.95	6 19.21	43 30.86	1 11.37	1.87	63.08	9.62	31.4		
28	54 46.4	5 1	1.0	49.9	5 55.45	6 17.65	43 29.30	1 12.86	1.89	62.93	10.16	31.0		
2 CETI. $\delta_0 = - 18^\circ 2' 55''.1$														
Nov. 2	57 3.5	20 4	45.0	47.2	24 46.10	25 7.10	2 18.75	-1 44.73	-2.82	+63.40	+8.86	2 54.0		
22	56 58.3	20 4	48.7	47.7	24 48.25	25 9.38	2 21.03	1 43.51	2.30	62.56	11.14	53.1		
Dec. 9	57 24.9	25 0	35.1	27.1	25 31.10	25 6.53	2 18.18	1 49.04	2.02	62.24	12.75	54.3		
17	56 42.2	20 4	55.5	47.2	24 51.35	25 13.24	2 24.89	1 45.61	2.65	62.70	13.36	57.1		
20	56 41.8	25 0	54.9	42.6	24 48.75	25 8.73	2 20.38	1 48.71	2.64	63.08	13.56	55.1		
28	56 35.2	20 4	52.4	41.6	24 47.00	25 6.35	2 18.00	1 50.93	2.69	62.93	14.01	54.7		
33 PISCUM. $\delta_0 = - 6^\circ 25' 25''.8$														
Nov. 2	58 39.4	45 2	49.8	49.7	47 49.75	48 11.97	25 23.62	-1 8.05	-2.24	+63.40	+5.93	25 24.6		
19	58 38.2	45 2	56.3	53.9	47 55.10	48 13.06	25 24.71	1 9.21	1.93	63.05	7.16	25.6		
Dec. 9	58 51.6	45 3	30.6	20.7	48 25.65	48 12.35	25 24.00	1 10.85	2.20	62.24	8.71	26.1		
17	58 24.8	45 3	7.7	57.8	48 2.75	48 16.58	25 28.23	1 8.62	2.15	62.70	9.29	27.0		
20	58 48.1	45 3	39.9	27.1	48 33.50	48 14.08	25 25.73	1 10.63	2.22	63.08	9.50	26.0		
28	58 31.2	45 3	26.5	14.3	48 20.40	48 13.22	25 24.87	1 12.08	2.13	62.93	10.03	26.1		
α ANDROMEDÆ.* $\delta_0 = + 28^\circ 23' 1''.3$														
Nov. 2	1 34.9	0 0	10.9	4.5	0 7.70	0 32.41	22 15.94	-0 14.87	-0.68	+63.40	-1.19	23 2.6		
19	1 28.3	0 0	9.7	0.2	0 4.95	0 31.81	22 16.54	0 15.13	0.70	63.05	2.49	1.3		
22	1 29.1	0 0	11.2	1.6	0 6.40	0 31.37	22 16.98	0 14.70	0.67	62.56	2.59	1.6		
29	2 11.3	0 1	8.2	51.0	0 59.50	0 31.69	22 16.66	0 15.37	0.77	63.52	2.89	1.2		
Dec. 6	1 22.0	0 0	17.0	57.0	0 7.00	0 31.51	22 16.84	0 15.44	0.66	62.51	2.89	0.4		
9	1 19.2	0 0	13.1	58.2	0 5.65	0 31.09	22 17.26	0 15.48	0.67	62.24	2.79	0.6		
12	1 14.4	0 0	9.6	54.6	0 2.10	0 30.72	22 17.63	0 15.28	0.70	62.36	2.79	1.2		
17	1 5.8	0 0	6.2	49.2	59 57.70	0 31.50	22 16.85	0 15.00	0.76	62.70	2.69	1.1		
20	1 10.0	0 0	14.0	55.2	0 4.60	0 31.34	22 17.01	0 15.44	0.70	63.08	2.49	1.5		
28	1 2.7	0 0	14.8	51.3	0 3.05	0 29.90	22 18.45	0 15.75	0.64	62.93	2.09	2.9		
Jan. 2	1 2.1	0 0	19.4	1.3	0 10.35	0 32.14	22 16.21	0 15.63	0.67	63.51	1.69	1.7		

Date. 1871-2.	Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
22 ANDROMEDÆ.* $a_0 = 0^h 3^m 40^s.53$																
Nov. 2	32.1	35.0	38.0	43.8	46.8	49.6	52.6	55.5	1.4	4.4	7.3	49.68	+0.17	— 9.65	+0.34	m. 3 40.54
19	27.4	30.3	33.5	39.4	42.2	45.2	48.1	50.9	56.8	59.8	2.6	45.11	0.33	— 5.56	0.56	40.44
22	26.7	29.6	32.7	38.3	41.4	44.3	47.1	50.1	56.1	59.0	1.8	44.28	0.23	— 4.61	0.62	40.52
Dec. 6	19.2	22.0	25.1	30.8	33.8	36.7	39.7	42.5	48.4	51.3	54.2	36.70	0.35	+ 2.49	0.86	40.40
9	17.2	20.0	23.0	28.9	31.7	34.7	37.6	40.5	46.4	49.4	52.2	34.69	0.34	4.47	0.92	40.42
12	14.9	17.8	20.8	26.6	29.5	32.4	35.5	38.4	44.1	47.1	50.1	32.47	0.37	6.64	0.98	40.46
17	10.9	13.7	16.6	22.5	25.4	28.3	31.3	34.2	40.1	43.0	46.0	28.36	0.36	10.62	1.07	40.41
20	9.8	12.3	14.8	20.7	23.6	26.5	29.4	32.3	38.2	41.0	44.0	26.60	0.31	12.46	1.14	40.51
28	...	...	...	13.3	16.2	19.3	22.2	25.0	...	...	...	19.20	0.44	19.53	1.30	40.47
Jan. 2	56.7	59.6	2.6	8.4	11.3	14.3	17.1	20.0	26.0	28.9	31.8	14.25	0.36	24.36	1.41	40.38
4 H. DRACONIS L. C.* $a_0 = 12^h 6^m 10^s.47$																
Nov. 22	...	...	...	51.5	1.4	11.7	22.0	32.3	...	...	...	11.78	—1.15	— 4.61	+4.26	6 10.28
Dec. 6	6.0	16.2	26.1	46.8	57.3	7.0	16.7	27.6	47.2	57.7	8.2	6.98	1.71	+ 2.49	2.76	10.52
9	...	...	24.1	44.8	54.9	4.8	15.1	25.4	45.4	56.0	5.5	4.91	1.65	4.47	2.42	10.15
17	58.9	9.1	19.2	40.1	49.9	59.9	10.0	20.2	40.5	50.9	0.5	59.93	1.74	10.62	1.40	10.21
20	57.1	7.6	17.5	37.6	47.9	58.4	8.4	17.9	38.8	49.2	58.7	58.10	1.51	12.46	1.09	10.14
28	...	...	...	...	...	53.0	3.1	13.6	33.7	43.6	53.5	52.87	2.14	19.53	+0.10	10.36
Jan. 2	47.4	57.6	7.9	28.4	38.5	48.7	58.9	9.0	29.5	39.0	49.5	48.58	1.76	24.36	—0.51	10.67
γ PEGASI.* $a_0 = 0^h 6^m 38^s.78$																
Nov. 2	34.8	37.2	39.3	43.6	45.6	47.7	49.8	52.0	56.3	58.4	0.6	47.75	+0.03	— 9.65	+0.64	6 38.77
19	30.9	32.9	35.0	39.2	41.4	43.5	45.6	47.7	52.0	54.1	56.3	43.51	0.07	— 5.56	0.76	38.78
Dec. 12	18.3	20.4	22.5	26.8	29.0	31.1	33.1	35.3	39.5	41.6	43.8	31.04	0.08	+ 6.64	0.98	38.74
24	8.1	10.2	12.4	16.6	18.8	21.0	23.0	25.1	29.4	31.5	33.6	20.88	0.07	+16.72	1.13	38.80
35 PISCUM. (pr.?) $a_0 = 0^h 8^m 23^s.26$																
Nov. 2	19.9	22.0	24.0	28.1	30.2	32.2	34.4	36.5	40.6	42.7	44.8	32.31	+0.01	— 9.65	+0.65	8 23.32
22	14.8	16.9	19.0	23.0	25.1	27.2	29.3	31.3	35.5	37.5	39.6	27.20	0.02	4.61	0.79	23.40
29	12.1	14.3	16.3	20.4	22.6	24.6	26.7	28.9	32.9	35.1	37.1	24.64	0.02	2.14	0.85	23.37
θ ANDROMEDÆ. $a_0 = 0^h 10^m 24^s.53$																
Nov. 2	18.0	20.6	23.3	28.5	31.0	33.7	36.3	39.0	44.1	46.7	49.4	33.69	+0.13	— 9.65	+0.45	10 24.62
22	12.9	15.4	18.2	23.1	25.9	28.5	31.0	33.7	39.0	41.6	44.1	28.49	0.18	— 4.61	0.66	24.72
Dec. 28	47.6	50.4	53.0	58.3	0.6	3.5	6.0	8.6	13.9	16.5	19.0	3.40	0.34	+19.54	1.23	24.51
ι CETI.* $a_0 = 0^h 12^m 54^s.35$																
Nov. 2	50.9	53.0	55.1	59.2	1.3	3.4	5.5	7.6	11.8	13.9	15.9	3.42	—0.05	— 9.65	+0.59	12 54.31
Dec. 6	38.8	40.8	42.8	47.0	49.1	51.2	53.3	55.4	59.5	1.7	3.7	51.21	0.08	+ 2.50	0.86	54.49
9	36.7	38.8	40.8	44.7	46.9	49.1	51.2	53.2	57.3	59.5	1.6	49.07	0.08	4.48	0.89	54.36
20	28.4	30.6	32.7	36.8	38.8	41.1	43.1	45.0	49.4	51.4	53.6	40.99	0.07	12.47	1.01	54.40
28	21.3	23.3	25.4	29.6	31.6	33.8	35.9	38.0	42.1	44.2	46.3	33.77	0.09	19.54	1.11	54.33
ι SCULPTORIS. $a_0 = 0^h 15^m 5^s.10$																
Nov. 19	56.0	58.5	0.9	5.6	7.9	10.3	12.7	15.1	19.7	22.1	24.4	10.29	—0.22	— 5.56	+0.55	15 5.06
Dec. 5	48.8	51.1	53.5	58.3	0.7	3.2	5.5	7.8	12.4	14.9	17.1	3.03	0.23	+ 1.71	0.74	5.25
6	...	...	...	57.6	0.0	2.3	4.6	6.9	...	...	...	2.28	0.23	2.50	0.76	5.31
9	46.1	48.3	50.7	55.5	57.8	0.2	2.5	5.0	9.6	12.0	14.3	0.18	0.22	4.48	0.80	5.24
28	30.6	32.9	35.3	40.2	42.4	44.9	47.2	49.5	54.4	56.6	59.1	44.83	0.28	19.54	1.06	5.15

Date. 1871-2.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean Reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.	
			E.	G.									
22 ANDROMEDÆ.* $\delta_0 = + 45^\circ 21' 35''.2$													
Nov. 2	m. 3	s. 22.8	0	1	52.5	45.2	1 48.85	2 14.15	20 34.20	+0 3.11	-0.39	+63.40 -3.05	21 37.3
19	3	24.9	0	2	1.0	50.6	1 55.80	2 14.80	20 33.55	0 3.16	0.10	63.05 5.65	34.0
22	3	20.1	0	1	55.8	45.0	1 50.40	2 13.16	20 35.19	0 3.07	0.14	62.56 5.95	34.7
Dec. 6	3	15.9	0	2	3.0	43.6	1 53.30	2 12.86	20 35.49	0 3.23	0.08	62.51 7.05	34.1
9	3	11.0	0	1	57.2	40.2	1 48.70	2 10.99	20 37.36	0 3.24	0.11	62.24 7.15	35.6
12	3	12.6	0	2	2.5	46.1	1 54.30	2 13.02	20 35.33	0 3.19	0.25	62.36 7.25	33.4
17	3	4.3	0	1	58.1	42.4	1 50.25	2 12.92	20 35.43	0 3.13	0.27	62.70 7.35	33.6
20	3	9.5	0	2	7.8	47.8	1 57.80	2 13.88	20 34.47	0 3.23	0.23	63.08 7.35	33.2
28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jan. 2	2	53.6	0	2	3.8	44.9	1 54.35	2 13.73	20 34.62	0 3.27	0.27	63.51 6.85	34.3
4 H. DRACONIS L. C.* $\delta_0 = + 101^\circ 40' 20''.6$													
Nov. 22	6	43.8	45	0	5.2	47.5	44 56.35	45 5.00	37 43.35	+1 38.88	+1.93	+62.56 -6.97	40 19.7
Dec. 6	5	1.4	45	0	37.6	10.6	45 24.10	45 6.37	37 41.98	1 43.85	1.57	62.51 10.37	19.5
9	6	43.9	45	0	8.6	45.1	44 56.85	45 7.39	37 40.96	1 44.18	1.85	62.24 10.97	18.3
17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
28	7	8.9	45	0	0.2	34.0	44 47.10	45 7.64	37 40.71	1 45.97	1.31	62.93 13.47	17.5
Jan. 2	7	0.6	45	0	58.1	34.4	44 46.25	45 5.63	37 42.72	1 45.19	1.36	63.51 13.77	19.0
γ PEGASI.* $\delta_0 = + 14^\circ 28' 18''.1$													
Nov. 2	6	30.4	50	4	38.8	36.8	54 37.80	55 0.35	27 48.00	-0 31.61	-1.91	+63.40 +1.33	28 19.2
19	6	18.6	50	4	30.1	25.4	54 27.75	55 0.03	27 48.32	0 32.14	1.43	63.05 1.03	18.8
Dec. 12	6	12.8	50	4	41.8	32.0	54 36.90	55 0.50	27 47.85	0 32.46	1.77	62.36 1.63	17.6
24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
35 PISCUM (pr. ?) $\delta_0 = + 8^\circ 6' 35''.0$													
Nov. 2	8	12.9	15	1	10.0	7.0	16 8.50	16 34.21	6 14.14	-0 40.65	-1.56	+63.40 +2.65	6 38.0
22	8	14.2	15	1	16.2	17.8	16 17.00	16 34.23	6 14.12	0 40.17	1.42	62.59 2.92	38.0
29	8	51.8	15	2	14.8	2.7	17 8.75	16 32.72	6 15.63	0 42.01	1.53	63.52 3.19	38.8
θ ANDROMEDÆ. $\delta_0 = + 37^\circ 58' 15''.4$													
Nov. 2	10	12.4	25	0	8.9	2.7	25 5.80	25 28.28	57 20.07	-0 46.0	-0.31	+63.40 -2.11	58 16.4
22	10	4.5	25	0	5.7	55.9	25 0.80	25 26.14	57 22.21	0 45.5	0.32	62.56 4.50	15.4
28	10	11.2	25	0	43.2	26.0	25 34.60	25 26.37	57 21.98	0 48.1	0.28	62.93 5.0	14.8
ι CETI.* $\delta_0 = - 9^\circ 32' 2''.0$													
Nov. 2	12	47.0	50	4	17.1	18.1	54 17.60	54 39.25	31 50.90	-1 16.02	-2.56	+63.40 +6.46	31 59.6
Dec. 6	12	34.7	50	4	23.7	13.6	54 18.65	54 40.43	31 52.08	1 18.87	2.00	62.51 9.46	61.0
9	12	31.4	50	4	20.2	12.9	54 16.55	54 39.92	31 51.57	1 19.12	1.99	62.24 9.66	60.8
20	12	27.8	50	4	32.0	19.3	54 25.65	54 43.08	31 54.73	1 18.92	2.41	63.08 10.46	62.5
28	12	17.0	50	4	26.2	16.0	54 21.10	54 43.28	31 54.93	1 20.48	2.43	62.93 10.96	63.9
ι SCULPTORIS. $\delta_0 = - 29^\circ 41' 22''.9$													
Nov. 19	14	53.9	0	2	2.6	58.0	2 0.30	2 19.37	39 31.02	-3 5.26	-2.30	+63.05 +13.89	41 21.6
Dec. 5	15	9.8	0	2	31.0	18.8	2 24.90	2 16.99	39 28.64	3 7.41	2.33	62.63 15.92	19.8
6	15	15.1	0	2	36.4	24.0	2 30.20	2 15.32	39 26.97	3 9.10	2.31	62.51 16.02	19.8
9	14	44.1	0	2	4.6	54.0	1 59.30	2 18.02	39 29.67	3 9.72	2.27	62.24 16.32	23.1
28	14	56.4	0	2	33.8	21.4	2 27.60	2 14.12	39 25.77	3 12.96	2.57	62.93 17.59	20.8

Date. 1871-2.	Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
12 CASSIOPELÆ. $\alpha_0 = 0^h 17^m 44^s.74$																
Nov. 19	24.1	28.3	32.4	41.1	45.3	49.4	53.7	58.1	6.5	10.9	15.2	49.54	+0.60	— 5.56	+0.10	17 44.68
29	20.4	24.7	29.1	37.6	41.9	46.1	50.2	54.6	3.3	7.5	11.6	46.09	0.49	— 2.14	0.37	44.81
Dec. 5	16.5	20.6	24.7	33.3	37.6	41.8	46.2	50.4	58.9	3.1	7.3	41.86	0.64	+ 1.71	0.55	44.76
6	15.6	19.6	24.0	32.5	36.6	41.1	45.2	49.5	57.9	2.3	6.8	41.01	0.63	2.50	0.58	44.72
9	13.3	17.4	21.8	30.4	34.7	38.8	43.1	47.4	56.0	0.2	4.6	38.88	0.61	4.48	0.67	44.64
20	5.1	9.1	13.4	22.0	26.4	30.6	34.7	39.1	47.8	51.8	56.1	30.56	0.56	12.47	1.04	44.63
PI. O. 79. $\alpha_0 = 0^h 21^m 34^s.61$																
Nov. 2	29.2	31.8	34.1	39.1	41.7	44.4	46.8	49.1	54.1	56.4	59.0	44.16	—0.15	— 9.65	+0.29	21 34.65
29	...	...	...	31.6	34.2	36.5	38.8	41.5	...	...	...	36.52	0.21	— 2.14	0.58	34.75
Dec. 6	17.1	19.5	22.0	26.8	29.4	31.8	34.2	36.8	41.6	44.3	46.8	31.84	0.27	+ 2.50	0.67	34.64
9	15.0	17.5	20.0	25.0	27.3	29.8	32.2	34.7	39.7	42.3	44.8	29.85	0.26	4.48	0.72	34.79
20	6.9	9.3	11.7	16.6	19.2	21.8	24.2	26.7	31.6	34.1	36.5	21.69	0.24	12.47	0.88	34.80
12 CETI.* $\alpha_0 = 0^h 23^m 30^s.41$																
Nov. 2	27.3	29.3	31.2	35.3	37.5	39.5	41.5	43.5	47.7	49.9	51.9	39.51	—0.03	— 9.65	+0.59	23 30.42
Dec. 5	15.6	17.7	19.7	23.8	25.8	27.9	29.9	32.0	36.2	38.3	40.3	27.93	0.04	+ 1.71	0.80	30.40
20	4.7	6.8	8.8	13.0	15.0	17.2	19.2	21.3	25.3	27.4	29.5	17.11	0.04	12.47	0.96	30.50
28	57.6	59.5	1.6	5.9	7.8	9.9	11.9	14.0	18.1	20.1	22.2	9.87	0.05	19.54	1.06	30.42
κ CASSIOPELÆ.* $\alpha_0 = 0^h 25^m 44^s.42$																
Nov. 2	28.4	32.0	36.6	45.2	49.6	54.1	58.5	3.0	11.5	16.0	20.5	54.13	+0.33	— 9.65	—0.31	25 44.50
29	19.5	23.8	28.2	37.1	41.6	46.1	50.3	54.8	3.5	7.9	12.5	45.94	0.52	— 2.14	+0.28	44.60
Dec. 5	15.2	19.4	23.7	32.9	37.2	41.5	46.2	50.5	59.3	3.6	8.0	41.59	0.67	+ 1.71	0.48	44.45
11	10.8	15.1	19.3	28.3	32.7	37.0	41.4	45.9	54.6	59.2	3.6	37.08	0.67	5.95	0.67	44.37
20	3.8	8.3	12.7	21.5	25.9	30.6	34.7	39.2	48.0	52.7	56.8	30.38	0.59	12.47	0.98	44.42
24	59.4	4.0	8.3	16.9	21.4	25.9	30.3	34.6	43.7	47.9	52.5	25.90	0.59	16.73	1.16	44.38
Jan. 2	51.4	55.9	0.2	9.0	13.6	18.0	22.0	26.7	35.5	40.0	44.3	17.87	0.68	24.37	1.45	44.37
κ DRACONIS L. C.* $\alpha_0 = 12^h 28^m 0^s.35$																
Nov. 2	28.4	34.8	40.9	53.6	59.4	5.3	11.7	17.7	30.4	36.7	42.6	5.59	—0.50	— 9.65	+4.73	27 60.17
29	...	...	...	47.6	53.7	59.9	6.1	12.5	...	...	...	59.96	0.77	— 2.13	2.89	59.95
Dec. 28	4.3	10.5	16.7	29.3	35.4	41.4	47.4	53.6	6.0	12.2	18.1	41.35	1.25	+19.55	0.77	60.42
PI. O. 130. $\alpha_0 = 0^h 30^m 46^s.31$																
Nov. 19	37.6	39.8	42.1	46.7	48.9	51.3	53.5	55.7	0.3	2.6	4.9	51.22	—0.19	— 5.56	+0.49	30 45.96
Dec. 5	30.2	32.6	34.8	39.4	41.7	43.9	46.2	48.4	53.1	55.3	57.7	43.94	0.20	+ 1.71	0.66	46.11
20	19.5	21.6	23.9	28.4	30.8	33.0	35.3	37.5	42.1	44.4	46.7	33.02	0.17	12.47	0.85	46.17
28	12.2	14.5	16.7	21.3	23.5	25.7	28.0	30.3	34.8	37.2	39.4	25.78	0.24	19.55	0.95	46.04
Jan. 2	7.3	9.6	11.9	16.4	18.8	21.0	23.1	25.6	30.0	32.5	34.7	20.99	0.20	24.38	1.02	46.19
α CASSIOPELÆ.* $\alpha_0 = 0^h 33^m 15^s.37$																
Nov. 2	3.1	6.4	10.1	17.3	21.0	24.8	28.3	32.2	39.2	42.9	46.9	24.75	+0.26	— 9.65	—0.02	33 15.34
19	58.3	1.8	5.5	12.7	16.4	20.1	23.7	27.5	34.8	38.5	42.3	20.14	0.49	— 5.56	+0.21	15.28
29	54.6	58.3	2.1	9.1	13.1	16.7	20.5	24.2	31.3	35.0	38.6	16.68	0.40	— 2.13	0.41	15.36
Dec. 5	50.7	54.3	58.0	5.4	8.9	12.7	16.3	19.8	27.2	30.9	34.6	12.62	0.52	+ 1.72	0.55	15.41
11	46.3	49.9	53.4	0.9	4.5	8.1	11.8	15.4	22.8	26.5	30.1	8.15	0.52	+ 5.96	0.69	15.32

Date. 1871-2.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.							
			E.	G.															
12 CASSIOPELÆ. $\delta_0 = + 61^\circ 7' 17''.3$																			
Nov. 19	m. 17	s. 4.2	15	1	25.0	11.1	16	18.05	16	47.35	6	1.00	+0	20.60	+0.19	+63.05	-6.95	7	17.9
29	17	9.4	15	1	32.7	13.4	16	23.05	16	46.80	6	1.55	0	20.93	0.35	63.52	8.66		17.7
Dec. 5	16	57.5	15	1	27.7	6.0	16	16.85	16	45.58	6	2.77	0	20.83	0.23	62.63	9.45		17.0
6	17	1.8	15	1	32.2	9.9	16	21.05	16	46.41	6	1.94	0	21.02	0.34	62.51	9.57		16.2
9	17	12.7	15	1	38.7	20.0	16	29.35	16	46.30	6	2.05	0	21.09	0.53	62.24	9.87		16.0
20	16	46.5	15	1	29.8	6.8	16	18.30	16	46.83	6	1.52	0	21.04	0.12	63.08	10.61		15.1
PI. O. 79. $\delta_0 = - 33^\circ 42' 49''.6$																			
Nov. 2	21	26.2	0	2	35.0	33.9	2	34.45	2	54.49	40	6.14	-3	56.19	-2.66	+63.40	+11.84	42	49.7
29	21	15.8	0	2	35.7	24.6	2	30.15	2	53.20	40	4.85	4	4.12	2.34	63.52	16.25		51.4
Dec. 6	21	11.7	0	2	32.2	19.1	2	25.65	2	48.03	39	59.68	4	5.12	2.30	62.51	17.13		47.5
9	21	11.5	0	2	36.6	26.0	2	31.30	2	51.67	40	3.32	4	5.92	2.32	62.24	17.44		51.9
20	21	43.7	0	3	23.2	10.2	3	16.70	2	52.20	40	3.85	4	5.49	2.61	63.08	18.41		50.5
12 CETI.* $\delta_0 = - 4^\circ 39' 53''.8$																			
Nov. 2	23	21.6	0	2	19.2	19.4	2	19.30	2	43.18	39	54.83	-1	4.08	-2.11	+63.40	+5.32	39	52.3
Dec. 5	23	9.5	0	2	25.7	15.5	2	20.60	2	45.15	39	56.80	1	5.87	1.81	62.63	7.72		54.1
20	23	31.7	0	3	10.9	57.0	3	3.95	2	44.46	39	56.11	1	6.54	2.11	63.08	8.62		53.1
28	22	52.2	0	2	25.7	13.1	2	19.40	2	43.02	39	54.67	1	7.80	2.04	62.93	9.22		52.4
κ CASSIOPELÆ.* $\delta_0 = + 62^\circ 13' 30''.2$																			
Nov. 2	25	24.2	10	0	28.3	17.5	10	22.90	10	41.57	12	6.78	+0	21.56	+0.54	+63.40	-2.76	13	29.5
29	25	11.4	10	0	25.0	6.4	10	15.70	10	37.24	12	11.11	0	22.27	0.52	63.52	8.56		28.9
Dec. 5	25	12.3	10	0	28.6	7.2	10	17.90	10	36.20	12	12.15	0	22.16	0.59	62.63	9.46		28.1
11	24	53.9	10	0	14.6	56.0	10	5.30	10	32.27	12	16.08	0	21.68	0.37	61.67	10.16		29.6
20	24	57.0	10	0	24.9	1.8	10	13.35	10	34.20	12	14.15	0	22.39	0.52	63.08	10.86		29.3
24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jan. 2	25	5.8	10	0	37.0	16.8	10	26.90	10	34.46	12	13.89	0	22.66	0.71	63.51	10.96		29.8
κ DRACONIS L. C.* $\delta_0 = + 109^\circ 30' 22''.0$																			
Nov. 2	27	54.5	55	1	8.0	52.6	56	0.30	55	55.35	26	53.00	+2	20.58	+1.98	+63.40	+1.92	30	20.9
29	28	45.6	55	0	43.3	19.3	55	31.30	55	51.66	26	56.69	2	25.17	1.79	63.52	-7.08		20.1
Dec. 28	27	44.4	55	1	3.0	35.0	55	49.00	55	50.34	26	58.01	2	28.72	2.05	62.93	13.08		18.6
PI. O. 130. $\delta_0 = - 25^\circ 28' 19''.7$																			
Nov. 19	30	55.8	45	4	58.8	57.3	49	58.05	49	52.25	27	3.90	-2	28.05	-2.17	+63.05	+12.19	28	18.9
Dec. 5	30	25.2	45	4	32.7	24.4	49	28.55	49	51.15	27	2.80	2	29.72	2.28	62.63	14.30		17.9
20	30	17.2	45	4	39.7	27.4	49	33.55	49	52.64	27	4.29	2	31.30	2.73	63.08	15.76		19.5
28	30	7.7	45	4	32.8	22.1	49	27.45	49	49.32	27	0.97	2	34.11	2.73	62.93	16.28		18.6
Jan. 2	30	42.4	50	0	22.0	11.9	50	16.95	49	51.09	27	2.74	2	33.03	2.13	63.51	16.51		17.9
α CASSIOPELÆ.* $\delta_0 = + 55^\circ 50' 5''.2$																			
Nov. 2	33	15.3	30	3	56.7	45.7	33	51.20	33	58.27	48	50.08	+0	14.31	-0.14	+63.40	-2.41	50	5.2
19	33	47.6	30	4	21.0	12.7	34	16.85	33	56.17	48	52.18	0	14.54	+0.09	63.05	6.01		3.9
29	32	39.7	30	3	34.4	15.3	33	24.85	33	52.68	48	55.67	0	14.77	-0.02	63.52	7.71		6.2
Dec. 5	32	52.4	30	3	47.7	27.9	33	37.80	33	53.00	48	55.35	0	14.69	+0.30	62.63	8.41		4.6
11	32	44.1	30	3	39.7	21.0	33	30.35	33	48.48	48	59.87	0	14.38	-0.06	61.67	9.01		6.8

Date.		Right Ascension Wires.										Seconds of Transit over Mean Wire.	$n \tan \delta$ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
1871-2.		1	2	3	4	5	6	7	8	9	10	11					
<i>a</i> CASSIOPELÆ.* $a_0 = 0^h 33^m 15^s.37$																	
Dec.	20	39.6	43.1	47.0	54.0	57.8	1.6	5.0	8.8	16.1	19.8	23.5	1.48	+0.45	+12.47	+0.93	33 15.33
	24	35.2	38.7	42.3	49.7	53.3	56.9	0.8	4.5	11.7	15.3	19.2	57.06	0.46	16.74	1.04	15.30
	28	32.2	35.6	39.3	46.7	50.3	53.8	57.5	1.0	8.4	12.0	15.7	53.86	0.65	19.55	1.15	15.21
Jan.	2	27.2	30.7	34.5	41.8	45.3	49.1	52.8	56.3	3.8	7.3	11.1	49.08	0.53	24.38	1.29	15.28
	23	45.5	49.1	52.9	0.0	3.7	7.4	11.1	14.9	22.0	25.7	29.4	7.43	0.50	5.40	1.89	15.22
<i>ξ</i> CASSIOPELÆ. $a_0 = 0^h 34^m 55^s.96$																	
Dec.	28	15.8	18.7	22.0	28.4	31.6	34.6	37.9	41.3	47.6	50.7	54.0	34.78	+0.52	+19.55	+1.12	34 55.97
Jan.	2	11.8	14.0	17.2	23.6	26.7	30.0	33.1	36.3	42.8	46.0	49.2	30.06	0.42	24.38	1.24	56.10
<i>β</i> CETI. $a_0 = 0^h 37^m 9^s.77$																	
Dec.	5	54.7	56.9	58.9	3.2	5.5	7.6	9.8	12.0	16.3	18.4	20.7	7.64	-0.14	+ 1.72	+0.66	37 9.88
	20	43.8	45.9	48.0	52.4	54.5	56.6	59.0	1.1	5.4	7.6	9.8	56.74	0.13	12.47	0.83	9.91
	28	36.8	38.8	41.0	45.3	47.4	49.5	51.7	53.9	58.3	0.4	2.7	49.62	0.17	19.55	0.93	9.93
Jan.	2	31.6	33.9	36.0	40.3	42.7	44.8	46.9	49.0	53.4	55.6	57.7	44.72	0.15	24.38	1.03	9.98
<i>21</i> CASSIOPELÆ.* $a_0 = 0^h 37^m 14^s.09$																	
Nov.	19	34.4	41.9	49.6	4.7	12.4	19.9	27.3	34.9	50.3	57.9	5.4	19.88	+1.19	- 5.55	-1.08	37 14.44
	29	30.6	38.4	46.1	1.2	8.7	16.1	23.7	31.3	46.6	54.1	1.6	16.22	0.97	- 2.13	-0.60	14.46
Dec.	11	21.0	29.0	36.6	51.9	59.4	7.0	14.4	22.2	37.3	44.9	52.9	6.96	1.26	+ 5.96	+0.13	14.31
<i>ζ</i> ANDROMEDÆ.* $a_0 = 0^h 40^m 33^s.44$																	
Nov.	2	29.1	31.2	33.6	38.2	40.3	42.5	44.8	46.9	51.5	53.7	56.0	42.53	+0.07	- 9.65	+0.51	40 33.46
	19	24.7	27.0	29.3	33.8	36.0	38.3	40.4	42.7	47.2	49.5	51.7	38.24	0.14	- 5.55	0.60	33.43
	29	21.2	23.6	25.8	30.3	32.5	34.7	36.9	39.1	43.8	46.1	48.2	34.74	0.11	- 2.13	0.69	33.41
Dec.	5	17.4	19.6	21.9	26.4	28.6	30.9	33.1	35.4	39.8	42.1	44.3	30.86	0.15	+ 1.72	0.74	33.47
Jan.	21	13.3	15.5	17.7	22.2	24.4	26.7	28.9	31.2	35.6	37.8	40.1	26.67	0.15	+ 5.28	1.33	33.43
<i>η</i> CASSIOPELÆ.* $a_0 = 0^h 41^m 22^s.01$																	
Nov.	2	8.8	12.6	16.5	24.2	27.7	31.6	35.5	39.3	46.7	50.6	54.4	31.63	+0.27	- 9.65	-0.05	41 22.20
	19	4.8	8.5	11.9	19.5	23.5	27.1	30.7	34.7	42.3	46.0	49.9	27.17	0.51	- 5.55	+0.17	22.30
Dec.	24	41.4	45.0	48.8	56.4	0.2	3.8	7.6	11.4	19.0	22.9	26.8	3.94	0.48	+16.75	+0.98	22.15
	28	38.2	41.8	45.6	53.2	57.0	0.6	4.6	8.4	16.0	19.7	23.6	0.79	0.68	+19.56	+1.10	22.13
<i>ν</i> ANDROMEDÆ. $a_0 = 0^h 42^m 45^s.67$																	
Nov.	29	30.9	33.6	36.2	41.6	44.3	46.9	49.7	52.4	57.8	0.5	3.2	47.01	+0.23	- 2.12	+0.59	42 45.71
Dec.	5	26.9	29.6	32.2	37.7	40.4	43.0	45.7	48.4	53.8	56.5	59.3	43.05	0.30	+ 1.72	0.67	45.74
<i>γ</i> CASSIOPELÆ.* $a_0 = 0^h 48^m 59^s.97$																	
Nov.	29	36.6	40.7	44.9	53.3	57.2	1.2	5.4	9.4	17.8	22.1	26.2	1.35	+0.47	- 2.12	+0.22	48 59.92
Dec.	24	17.0	21.1	25.3	33.7	37.5	41.6	45.7	50.0	58.3	2.4	6.5	41.74	0.54	+16.75	0.91	59.94
Jan.	21	27.5	31.4	35.6	43.9	47.9	52.1	56.3	0.3	8.6	12.7	17.0	52.12	0.62	+ 5.28	1.88	59.90

Date. 1871-2.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.	
			E.	G.									
<i>α</i> CASSIOPEIÆ.* $\delta_0 = + 55^\circ 50' 5''.2$													
Dec. 20	32	37.5	30	3	44.3	21.5	33	32.90	33	50.95	48	57.40 +0 14.85 -0.07 +63.08 -9.61	50 5.7
24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
28	32	30.8	30	3	46.0	23.9	33	34.95	33	52.32	48	56.03 0 15.13 0.10 62.93 9.71	4.3
Jan. 2	32	54.8	30	4	5.8	45.5	33	55.65	33	51.36	48	56.99 0 15.02 +0.02 63.51 9.71	5.8
23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>ξ</i> CASSIOPEIÆ. $\delta_0 = + 49^\circ 48' 36''.4$													
Dec. 28	34	25.4	35	0	18.0	56.4	35	7.20	35	15.33	47	33.02 +0 8.25 +0.24 +62.93 -8.38	48 36.1
Jan. 2	34	58.5	35	0	50.6	30.5	35	40.55	35	15.92	47	32.43 0 8.19 -0.04 63.51 8.26	35.8
<i>β</i> CETI. $\delta_0 = - 18^\circ 41' 23''.1$													
Dec. 5	36	45.6	0	3	7.7	58.7	3	3.20	3	31.10	40	42.75 -1 50.67 -2.11 +62.63 +11.99	41 20.9
20	36	46.2	0	3	25.7	13.9	3	19.80	3	33.11	40	44.76 1 51.87 2.48 63.08 13.43	22.6
28	36	38.0	0	3	21.4	12.0	3	16.70	3	31.41	40	43.06 1 53.91 2.51 62.93 14.01	22.5
Jan. 2	36	50.6	0	3	45.6	36.0	3	40.80	3	33.32	40	44.97 1 53.17 2.58 63.51 14.26	22.9
<i>21</i> CASSIOPEIÆ.* $\delta_0 = + 74^\circ 17' 15''.2$													
Nov. 19	36	30.4	5	1	57.6	42.8	6	50.20	7	8.17	15	40.18 +0 37.82 +0.80 +63.05 -6.76	17 15.1
29	36	6.8	5	1	52.4	31.2	6	41.80	7	6.99	15	41.36 0 38.41 0.49 63.52 9.06	14.7
Dec. 11	36	47.6	5	2	2.5	43.1	6	52.80	6	59.84	15	48.51 0 37.40 0.95 61.67 11.16	17.4
<i>ζ</i> ANDROMEDÆ.* $\delta_0 = + 23^\circ 34' 13''.4$													
Nov. 2	40	17.7	45	3	50.2	44.0	48	47.10	49	17.54	33	30.81 -0 20.38 -1.54 +63.40 +0.26	33 12.5
19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
29	40	17.4	45	4	2.3	46.0	48	54.15	49	15.38	33	32.97 0 21.02 1.05 63.52 -1.24	13.2
Dec. 5	40	14.9	45	4	4.1	47.3	48	55.70	49	15.34	33	33.01 0 20.92 0.97 62.63 1.24	12.5
Jan. 21	40	4.7	45	3	56.6	29.9	48	43.25	49	10.25	33	38.10 0 20.36 1.34 55.58 +0.96	12.9
<i>η</i> CASSIOPEIÆ.* $\delta_0 = + 57^\circ 08' 9''.7$													
Nov. 2	41	25.8	15	0	57.2	46.8	15	52.00	15	56.29	6	52.06 +0 15.70 +0.43 +63.40 -1.86	8 9.7
19	41	55.0	15	1	18.6	4.8	16	11.70	15	51.50	6	56.85 0 16.01 0.32 63.05 5.96	10.3
Dec. 24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>ν</i> ANDROMEDÆ. $\delta_0 = + 40^\circ 22' 52''.9$													
Nov. 29	42	13.3	0	0	27.7	11.4	0	19.55	0	53.93	21	54.42 -0 2.15 -0.24 +63.52 -4.94	22 50.6
Dec. 5	42	21.6	0	0	37.2	19.8	0	28.50	0	50.33	21	58.02 0 2.14 0.12 62.63 5.43	53.0
<i>γ</i> CASSIOPEIÆ.* $\delta_0 = + 60^\circ 1' 21''.9$													
Nov. 29	48	19.5	20	2	25.2	3.7	22	14.45	22	42.48	0	5.87 +0 19.63 +0.16 +63.52 -7.73	1 21.4
Dec. 24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jan. 21	48	9.9	20	2	16.8	48.5	22	2.65	22	30.88	0	17.47 0 19.02 0.17 55.58 9.73	22.5

Date. 1871-2.	Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
<i>α SCULPTORIS.</i> $\alpha_0 = 0^h 52^m 26^s.19$																
Nov. 29	12.9	16.3	18.6	23.5	25.9	28.1	30.6	32.9	37.6	40.1	42.4	28.08	-0.19	- 2.12	+0.39	52 26.16
Dec. 5	10.0	12.4	14.8	19.5	21.9	24.2	26.7	29.1	33.8	36.1	38.6	24.28	0.23	+ 1.73	0.46	26.24
20	59.3	1.6	3.8	8.7	11.1	13.4	15.8	18.0	22.9	25.4	27.6	13.42	0.21	+12.48	0.60	26.29
<i>ϵ PISCUM.*</i> $\alpha_0 = 0^h 56^m 18^s.09$																
Nov. 29	7.2	9.1	11.3	15.4	17.5	19.6	21.6	23.8	27.9	30.0	32.1	19.59	+0.02	- 2.12	+0.61	56 18.10
Dec. 5	3.3	5.4	7.4	11.6	13.7	15.7	17.8	19.8	24.0	26.1	28.2	15.73	0.03	+ 1.73	0.65	18.14
17	...	...	...	2.5	4.5	6.6	8.7	10.8	...	...	...	6.62	0.03	10.67	0.76	18.08
20	52.4	54.5	56.6	0.7	2.7	4.9	6.9	9.0	13.2	15.3	17.4	4.87	0.03	12.48	0.79	18.17
24	48.2	50.1	52.2	56.5	58.5	0.5	2.6	4.7	8.8	10.9	13.0	0.55	0.03	16.76	0.83	18.17
Jan. 2	40.5	42.5	44.5	48.7	50.8	52.8	54.9	56.9	1.1	3.2	5.2	52.83	0.03	24.40	0.94	18.20
21	59.3	1.3	3.4	7.5	9.6	11.7	13.8	15.8	20.0	22.0	24.0	11.67	0.03	5.28	1.16	18.14
<i>μ CASSIOPEÆ.</i> $\alpha_0 = 0^h 59^m 46^s.15$																
Nov. 29	26.5	29.9	33.4	40.6	43.8	47.6	51.1	54.7	1.7	5.2	8.8	47.57	+0.38	- 2.12	+0.32	59 46.17
Dec. 5	22.5	26.0	29.4	36.5	40.0	42.5	46.9	50.6	57.6	1.2	4.7	43.44	0.49	+ 1.73	0.42	46.08
17	13.2	16.7	20.2	27.1	30.7	34.2	37.8	41.3	48.3	51.8	55.4	34.25	0.50	10.67	0.68	46.10
20	11.4	15.0	18.4	25.4	29.0	32.5	36.0	39.6	46.5	50.2	53.6	32.51	0.43	12.48	0.75	46.17
28	...	...	...	18.0	21.3	24.9	28.4	32.0	...	...	...	24.92	0.61	19.57	0.95	46.05
Jan. 2	59.1	2.6	6.2	12.1	16.6	20.1	23.6	27.2	34.2	37.8	41.2	20.06	0.50	24.40	1.09	46.05
14	20.2	23.5	27.0	34.3	37.5	41.4	44.7	48.5	55.6	58.7	2.7	41.28	0.51	2.95	1.41	46.15
21	...	...	...	31.7	35.3	38.8	42.4	46.0	...	...	...	38.84	0.50	5.28	1.61	46.23
<i>β ANDROMEDÆ.*</i> $\alpha_0 = 1^h 2^m 34^s.27$																
Nov. 29	20.6	23.1	25.5	30.5	33.1	35.6	38.1	40.6	45.6	48.1	50.6	35.58	+0.18	- 2.12	+0.55	2 34.19
Dec. 5	...	...	...	26.7	29.2	31.6	34.2	36.6	...	...	...	31.66	0.24	+ 1.73	0.60	34.23
17	7.5	9.9	12.5	17.5	20.0	22.5	25.0	27.6	32.6	35.1	37.6	22.53	0.24	10.67	0.74	34.18
20	5.8	8.3	10.8	15.7	18.2	20.7	23.3	25.8	30.8	33.3	35.8	20.77	0.21	12.48	0.79	34.25
24	1.4	3.8	6.4	11.4	13.9	16.3	19.0	21.4	26.4	29.0	31.5	16.41	0.21	16.76	0.84	34.22
27	59.4	2.0	4.5	9.5	12.0	14.5	17.0	19.5	24.5	27.0	29.5	14.49	0.23	18.61	0.89	34.22
28	58.3	1.0	3.4	8.5	10.9	13.4	15.8	18.4	23.4	26.0	28.5	13.42	0.30	19.57	0.90	34.19
Jan. 2	53.6	56.1	58.6	3.6	6.0	8.6	11.0	13.6	18.7	21.2	23.7	8.61	0.25	24.40	0.94	34.20
21	12.4	14.9	17.4	22.5	24.9	27.4	29.8	32.4	37.4	40.0	42.5	27.42	0.24	5.28	1.29	34.23
<i>τ PISCUM.*</i> $\alpha_0 = 1^h 4^m 37^s.00$																
Nov. 29	24.2	26.4	28.9	33.5	35.8	38.4	40.6	42.9	47.8	50.1	52.5	38.28	+0.14	- 2.12	+0.57	4 36.87
Dec. 1	22.7	25.1	27.4	32.0	34.5	36.8	39.2	41.5	46.3	48.6	50.9	36.82	0.20	- 0.72	0.59	36.89
2	22.0	24.4	26.6	31.3	33.6	36.1	38.4	40.8	45.4	47.8	50.2	36.05	0.19	+ 0.07	0.60	36.91
6	19.5	21.8	24.1	29.0	31.2	32.6	36.0	38.5	43.0	45.6	48.0	33.57	0.19	2.52	0.63	36.91
17	11.2	13.5	15.8	20.5	23.0	25.3	27.6	29.9	34.6	37.1	39.5	25.27	0.19	10.67	0.74	36.87
20	9.4	11.7	14.0	18.7	21.2	23.5	25.8	28.1	32.8	35.4	37.7	23.48	0.17	12.48	0.78	36.91
27	3.0	5.4	7.7	12.5	14.8	17.3	19.6	21.9	26.7	29.0	31.4	17.21	0.18	18.61	0.88	36.88
Jan. 21	16.0	18.3	20.7	25.4	27.7	30.2	32.6	34.9	39.6	42.1	44.5	30.18	0.19	5.28	1.23	36.88
<i>37 CETI.</i> $\alpha_0 = 1^h 7^m 57^s.09$																
Nov. 9	46.5	48.5	50.6	54.8	56.9	58.9	0.9	3.0	7.1	9.3	11.4	58.90	-0.06	- 2.12	+0.50	7 57.22
Dec. 12	37.6	39.7	41.6	45.8	47.9	50.1	52.1	54.2	58.3	0.4	2.5	50.02	0.07	+ 6.64	0.60	57.19
20	...	...	...	40.0	42.1	44.2	46.2	48.4	...	...	...	44.18	0.07	12.48	0.67	57.26
27	25.4	27.5	29.6	33.7	35.9	38.0	40.0	42.0	46.0	48.3	50.3	37.88	0.07	18.61	0.75	57.17
28	24.6	26.7	28.8	32.9	35.0	37.0	39.1	41.1	45.4	47.5	49.6	37.06	0.08	19.57	0.76	57.31
Jan. 2	18.7	21.7	24.0	28.0	30.0	32.1	34.2	36.3	40.4	42.5	44.6	32.05	0.07	24.40	0.82	57.20
9	14.3	16.4	18.3	22.6	24.7	26.8	28.8	31.0	35.0	37.1	39.2	26.74	0.08	29.69	0.90	57.25

Date. 1871-2.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.							
			E.	G.															
α SCULPTORIS. = - 30° 2' 59".7																			
Nov. 29	m. 52	s. 59.1	' 20	" 4	' 31.7	" 20.0	' 24	" 25.85	' 23	" 49.93	' 1	" 1.58	-3	' 12.45	" -2.28	+63.52	+14.20	' 2	" 58.6
Dec. 5	(52	51.2)	20	4	23.8	12.7	24	18.25	23	46.96	0	58.61	3	11.29	2.25	62.63	15.06	(54.5)	
20	52	0.5	20	3	43.6	29.0	23	36.30	23	51.25	1	2.90	3	13.84	2.68	63.08	16.69	59.6	
ε PISCUM.* δ ₀ = + 7° 12' 1".2																			
Nov. 29	55	59.0	10	0	46.7	33.2	10	39.95	11	7.31	11	41.04	-0	43.49	-1.43	+63.52	+3.38	12	3.0
Dec. 5	55	57.3	10	0	49.1	37.5	10	43.30	11	7.74	11	40.61	0	43.23	1.41	62.63	3.68	2.3	
17	56	17.2	10	1	29.1	17.9	11	23.50	11	9.42	11	38.93	0	42.48	1.55	62.70	4.28	1.9	
20	55	52.5	10	0	59.9	44.8	10	52.35	11	8.82	11	39.53	0	43.81	1.49	63.08	4.38	1.7	
24	.....																		
Jan. 2	55	35.1	10	0	52.0	39.2	10	45.60	11	9.11	11	39.24	0	44.28	1.50	63.51	4.98	1.9	
21	55	50.3	10	0	47.6	23.8	10	35.70	11	8.99	11	44.36	0	42.13	1.48	55.58	6.28	2.6	
μ CASSIOPELÆ. δ ₀ = + 54° 17' 28".6																			
Nov. 29	59	11.8	5	1	12.7	51.9	6	2.30	6	30.27	16	18.08	+0	13.02	+0.06	+63.52	-6.77	17	27.8
Dec. 5	59	3.5	5	1	7.3	46.7	5	57.00	6	28.17	16	20.18	0	12.97	0.00	62.63	7.62	28.2	
17	58	58.7	5	1	7.3	48.8	5	58.05	6	25.78	16	22.57	0	12.72	0.00	62.70	8.93	29.1	
20	58	53.5	5	1	6.8	45.5	5	56.15	6	26.62	16	21.73	0	13.12	-0.07	63.08	9.14	28.7	
28	.....																		
Jan. 2	58	48.5	5	1	12.6	51.6	6	2.10	6	26.79	16	21.56	0	13.26	+0.06	63.51	9.59	28.8	
14	59	5.7	5	1	7.7	48.9	5	58.30	6	26.11	16	22.24	0	13.17	0.01	61.23	9.30	27.4	
21	59	48.3	5	1	39.8	11.2	6	25.50	6	18.08	16	30.27	0	12.61	0.25	55.58	9.25	29.5	
β ANDROMEDÆ.* δ ₀ = + 34° 56' 28".8																			
Nov. 29	2	11.2	25	1	53.9	36.4	26	45.15	27	11.93	55	36.42	-0	8.06	-0.55	+63.52	-3.58	56	27.9
Dec. 5	2	47.2	25	2	37.2	19.1	27	28.15	27	11.14	55	37.21	0	8.03	0.47	62.63	3.98	27.4	
17	2	5.8	25	1	59.3	43.9	26	51.60	27	9.93	55	38.42	0	7.88	0.62	62.70	4.38	28.2	
20	1	54.4	25	1	50.2	31.3	26	40.75	27	9.73	55	38.62	0	8.12	0.70	63.08	4.48	28.4	
24	.....																		
27	1	56.9	25	1	58.7	43.0	26	50.85	27	10.16	55	38.19	0	7.99	0.63	62.88	4.48	28.0	
28	1	48.9	25	1	52.5	32.6	26	42.55	27	9.44	55	38.91	0	8.26	0.70	62.93	4.48	28.4	
Jan. 2	1	45.8	25	1	54.6	37.0	26	45.80	27	10.82	55	37.53	0	8.21	0.68	63.51	4.28	27.9	
21	1	58.2	25	1	45.2	18.3	26	31.75	27	3.80	55	44.55	0	7.81	0.72	55.58	3.08	28.5	
τ PISCUM.* δ ₀ = + 29° 24' 33".6																			
Nov. 29	5	5.2	55	4	40.6	22.3	59	31.45	59	00.08	23	48.27	-0	14.22	-0.99	+63.52	-2.37	24	34.2
Dec. 1	5	4.5	55	4	40.3	22.2	59	31.25	58	58.94	23	49.41	0	14.24	0.91	63.89	2.47	35.7	
2	4	17.7	55	3	46.7	30.2	58	38.45	58	59.91	23	48.44	0	14.38	0.75	64.12	2.47	35.0	
6	4	7.4	55	3	38.3	18.2	58	28.25	58	58.81	23	49.54	0	14.28	0.84	62.51	2.67	34.3	
17	4	3.2	55	3	42.2	25.2	58	33.70	58	59.47	23	48.88	0	13.89	1.10	62.70	2.87	33.7	
20	4	1.9	55	3	44.2	24.4	58	34.30	58	59.49	23	48.86	0	14.33	1.11	63.08	2.87	33.6	
27	4	35.3	55	4	28.6	13.4	59	21.00	58	59.89	23	48.46	0	14.10	1.21	62.88	2.87	33.2	
Jan. 21	4	6.6	55	3	41.4	12.2	58	26.80	58	54.33	23	54.02	0	13.77	1.12	55.58	1.40	33.3	
37 CETI. δ ₀ = - 8° 36' 41".7																			
Nov. 9	7	41.5	55	4	5.1	56.0	59	0.55	59	23.58	36	35.23	-1	13.93	-2.05	+63.52	+7.58	36	40.1
Dec. 12	7	30.6	55	4	1.2	52.9	58	57.05	59	22.73	36	34.38	1	15.70	2.32	62.36	8.82	41.2	
20	7	26.5	55	4	7.0	55.2	59	1.10	59	24.53	36	36.18	1	16.68	2.33	63.08	9.53	42.6	
27	7	16.4	55	4	4.2	54.2	58	59.20	59	27.66	36	39.31	1	15.41	2.36	62.88	10.10	44.1	
28	7	16.1	55	4	1.1	50.2	58	55.65	59	23.44	36	35.09	1	17.94	2.35	62.93	10.18	42.3	
Jan. 2	7	10.9	55	4	2.5	52.2	58	57.35	59	25.54	36	37.19	1	17.50	2.23	63.51	10.56	42.8	
9	.....																		

Date.		Right Ascension Wires.											Seconds of transit over Mean Wire.	$n \tan \delta$ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
1871-2.		1	2	3	4	5	6	7	8	9	10	11					
		α URSÆ MINORIS.* $a_0 = 1^h 11^m 57^s.61$															
Dec.	5	28.5	53.6	17.5	10.4	36.2	2.5	27.6	52.7	44.6	13.0	37.4	2.18	+14.96	+ 1.74	-19.81	11 59.07
	11	19.0	44.4	10.7	0.2	26.8	55.5	17.6	44.9	33.2	2.9	28.1	53.03	14.88	5.97	15.98	57.90
	12	15.6	41.8	8.4	59.6	24.6	51.7	17.7	41.8	35.6	1.7	27.7	51.47	15.55	6.65	15.31	58.36
	17	...	...	...	50.8	17.8	43.2	9.0	35.5	...	...	...	43.26	15.09	10.67	11.06	57.96
	24	...	...	...	41.6	3.7	35.8	57.6	22.3	...	...	...	36.20	13.17	16.77	- 5.55	60.59
Jan.	9	...	...	...	9.9	36.6	59.5	27.9	53.9	...	...	...	1.56	17.35	29.70	+ 8.62	57.23
	14	...	...	...	34.5	58.3	27.4	50.3	17.1	...	...	...	25.52	15.55	2.95	13.64	57.66
	21	...	...	...	...	52.0	17.2	43.7	9.8	...	...	...	17.84	15.09	5.28	19.75	57.96
	30	25.0	56.3	22.4	14.4	40.2	7.3	30.0	55.0	48.2	14.6	42.8	7.82	17.65	6.39	28.28	60.14
		θ CETI.* $a_0 = 1^h 17^m 37^s.54$															
Dec.	1	25.3	27.5	29.4	33.6	35.7	37.9	39.9	42.0	46.1	48.2	50.3	37.81	-0.08	- 0.71	+0.46	17 37.48
	9	19.9	22.2	24.2	28.4	30.5	32.7	34.7	36.8	40.9	43.0	45.1	32.58	0.07	+ 4.51	0.52	37.54
	17	14.0	16.0	18.1	22.2	24.3	26.3	28.4	31.5	34.7	36.8	38.8	26.35	0.08	10.68	0.59	37.54
	27	6.0	8.0	10.0	14.2	16.2	18.3	20.4	22.5	26.6	28.7	30.8	18.34	0.07	18.62	0.69	37.58
Jan.	8	55.4	57.6	59.5	3.8	5.8	8.0	10.0	12.0	16.2	18.3	20.4	7.91	0.08	28.88	0.82	37.53
	9	54.8	56.8	58.9	3.0	5.1	7.2	9.2	11.4	15.5	17.6	19.7	7.20	0.08	29.70	0.84	37.66
	21	18.8	21.0	23.0	27.3	29.3	31.3	33.4	35.5	39.6	41.9	44.0	31.37	0.08	5.28	0.98	37.55
		ω ANDROMEDÆ. $a_0 = 1^h 20^m 0^s.38$															
Nov.	29	44.5	47.4	50.3	56.0	58.9	1.8	4.7	7.7	13.5	16.3	19.2	1.84	+0.27	- 2.11	+0.38	20 0.38
Dec.	1	43.0	45.8	48.8	54.7	57.5	0.3	3.2	6.1	11.9	14.8	17.7	0.35	0.36	- 0.71	0.40	0.40
	2	42.3	45.1	48.0	53.9	56.7	59.3	2.3	5.2	11.1	13.9	16.9	59.52	0.35	+ 0.08	0.41	0.36
	17	31.3	34.3	37.0	43.0	45.7	48.7	51.7	54.4	0.2	3.3	6.1	48.70	0.35	10.68	0.62	0.35
Jan.	8	12.8	15.5	18.5	24.3	27.0	29.8	33.0	35.7	41.5	44.5	47.4	30.00	0.39	28.88	1.02	0.29
	9	11.8	14.8	17.7	23.5	26.4	29.1	32.1	35.0	40.7	43.7	46.0	29.16	0.40	29.70	1.04	0.30
	21	36.0	39.0	41.9	47.6	50.6	53.6	56.4	59.2	5.0	8.0	11.0	53.48	0.35	5.28	1.30	0.41
		A. CASSIOPEÆ. $a_0 = 1^h 21^m 44^s.35$															
Dec.	1	...	...	...	32.7	38.6	44.4	50.4	56.3	...	...	...	44.48	+0.99	- 0.71	-0.40	21 44.36
	11	2.0	7.9	13.6	25.6	31.4	37.4	43.2	49.3	0.9	6.7	12.8	37.35	0.96	+ 5.98	-0.05	44.24
	12	1.4	7.0	13.0	24.9	31.0	36.8	42.7	48.7	0.4	6.5	12.3	36.79	1.00	6.68	-0.02	44.45
	17	57.4	3.0	9.0	20.7	26.6	32.4	38.4	44.3	56.0	2.1	8.0	32.54	0.97	10.68	+0.19	44.38
	27	48.5	54.7	0.4	12.4	18.6	24.3	30.1	35.8	47.8	53.8	59.6	24.18	0.90	18.62	0.64	44.34
	28	47.1	53.5	59.3	11.1	17.1	22.8	28.7	34.6	46.6	52.7	58.1	22.87	1.19	19.58	0.69	44.33
Jan.	2	43.0	48.5	54.2	6.2	12.0	17.8	24.0	29.7	41.6	47.6	53.4	18.00	0.98	24.41	0.94	44.33
	8	...	...	...	0.9	6.9	12.8	19.0	24.8	...	...	...	12.88	1.09	28.88	1.25	44.10
	9	36.8	42.7	48.5	0.6	6.3	12.1	18.0	24.0	35.9	41.7	47.6	12.20	1.12	29.70	1.30	44.32
		η PISCUM.* $a_0 = 1^h 24^m 38^s.14$															
Dec.	1	25.5	27.7	29.7	34.0	36.1	38.3	40.4	42.5	46.7	48.9	51.0	38.25	+0.08	- 0.71	+0.52	24 38.14
	2	24.8	26.9	29.0	33.3	35.4	37.5	39.6	41.7	46.0	48.1	50.3	37.51	0.08	+ 0.08	0.52	38.19
	11	18.8	20.9	23.0	27.3	29.3	31.4	33.7	35.7	40.0	42.1	44.3	31.50	0.08	5.98	0.58	38.14
	12	18.3	20.3	22.4	26.4	28.7	30.9	33.0	35.1	39.3	41.5	43.7	30.87	0.08	6.68	0.59	38.22
	27	6.0	8.1	10.2	14.5	16.6	18.7	20.9	23.0	27.2	29.3	31.5	18.73	0.08	18.62	0.72	38.15
	28	5.0	7.1	9.2	13.4	15.7	17.7	19.9	22.0	26.2	28.4	30.4	17.73	0.10	19.59	0.73	38.15
Jan.	1	1.1	3.2	5.3	9.6	11.7	13.8	16.0	18.0	22.3	24.5	26.5	13.82	0.09	23.41	0.78	38.10
	8	55.7	57.8	59.8	4.1	6.2	8.3	10.5	12.6	16.8	18.8	21.0	8.33	0.09	28.88	0.88	38.18
	9	54.7	56.8	59.0	3.2	5.4	7.4	9.7	11.8	16.0	18.0	20.2	7.47	0.10	29.70	0.89	38.16
	21	19.0	21.2	23.4	27.6	29.8	31.9	34.0	36.2	40.3	42.4	44.7	31.86	0.08	5.28	1.03	38.25

Date. 1871-2.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.*								
<i>a</i> URSAE MINORIS.* $\delta_0 = + 92^\circ 22' 23''.1$												
Dec. 5			m.	s.	'	'	'	'	'	'	'	'
11												
12												
17												
24												
Jan. 9												
14												
21												
30												
<i>\theta</i> CETI.* $\delta_0 = - 8^\circ 50' 40''.4$												
Dec. 1	17 23.2	10 3	7.7	57.7	13 2.70	13 22.01	50 33.66	-1 16.84	-1.94	+63.89	+7.40	50 41.1
9	17 17.4	10 3	6.2	56.4	13 1.30	13 21.41	50 33.06	1 17.40	1.94	62.24	8.22	41.9
17	17 3.3	10 2	58.1	49.7	12 53.90	13 24.58	50 36.23	1 14.98	2.17	62.70	8.96	41.7
27	17 1.8	10 3	7.7	0.2	13 3.95	13 25.77	50 37.42	1 16.07	2.25	62.88	9.87	43.0
Jan. 8	17 26.5	10 3	56.2	43.8	13 50.00	13 25.53	50 37.18	1 17.04	2.24	64.06	10.90	41.5
9	16 50.4	10 3	10.6	58.6	13 4.60	13 26.82	50 38.47	1 15.19	2.15	63.10	10.93	41.8
21	17 11.5	10 3	3.8	43.0	12 53.40	13 19.72	50 31.37	1 14.31	2.18	55.58	11.47	40.8
<i>\omega</i> ANDROMEDÆ. $\delta_0 = + 44^\circ 44' 40''.0$												
Nov. 29	19 28.5	35 3	48.4	28.7	38 38.55	39 10.22	43 38.13	+0 2.55	-0.43	+63.52	-4.88	44 38.9
Dec. 1	19 38.3	35 3	56.8	38.5	38 47.65	39 8.67	43 39.68	0 2.55	0.19	63.89	5.14	40.8
2	19 26.8	35 3	44.9	28.8	38 36.85	39 7.95	43 40.40	0 2.58	0.35	64.12	5.26	41.5
17	19 23.9	35 3	50.5	34.0	38 42.25	39 5.84	43 42.51	0 2.49	0.56	62.70	6.72	40.4
Jan. 8	18 59.7	35 3	47.0	26.4	38 36.70	39 5.52	43 42.83	0 2.56	0.56	64.06	7.24	41.8
9	19 12.4	35 4	0.7	40.2	38 50.45	39 6.33	43 42.02	0 2.50	0.42	63.10	7.21	40.0
21	19 21.3	35 3	41.8	14.4	38 28.10	38 58.72	43 49.63	0 2.47	0.64	55.58	6.60	40.4
A. CASSIOPEÆ. $\delta_0 = + 69^\circ 36' 16''.8$												
Dec. 1	22 1.3	45 3	18.2	56.2	48 7.20	47 59.36	34 48.99	+0 31.82	+0.90	+63.89	-7.80	36 17.8
11	21 0.8	45 2	47.5	27.0	47 37.25	47 54.28	34 54.07	0 30.90	0.49	61.67	9.80	17.3
12	21 2.5	45 2	50.1	28.7	47 39.40	47 55.41	34 52.94	0 31.62	0.53	62.36	10.00	17.5
17	20 48.6	45 2	44.4	23.8	47 34.10	47 54.58	34 53.77	0 31.05	0.39	62.70	10.80	17.1
27	20 47.9	45 2	47.2	27.0	47 37.10	47 54.22	34 54.13	0 31.50	0.47	62.88	12.00	17.0
28	20 51.6	45 2	54.5	29.0	47 41.75	47 56.36	34 51.99	0 32.54	0.52	62.93	12.10	15.9
Jan. 2	21 2.2	45 2	59.8	36.0	47 47.90	47 55.32	34 53.03	0 32.37	0.64	63.51	12.60	16.9
8	21 37.2	45 3	16.5	51.5	48 4.00	47 52.66	34 55.69	0 31.90	0.63	64.06	12.80	19.5
9	20 27.3	45 2	43.1	19.4	47 31.25	47 52.20	34 56.15	0 31.13	0.45	63.10	12.80	18.0
<i>\eta</i> PISCII.* $\delta_0 = + 14^\circ 41' 6''.4$												
Dec. 1	24 19.7	40 1	55.8	42.2	41 49.00	42 13.09	40 35.26	-0 32.47	-1.21	+63.89	+1.21	41 6.7
2	24 16.8	40 1	53.0	42.2	41 47.60	42 14.41	40 33.94	0 32.81	1.22	64.12	1.21	5.2
11	24 14.5	40 1	55.6	45.3	41 50.45	42 12.47	40 35.88	0 31.54	1.37	61.67	1.41	6.0
12	24 24.9	40 2	10.6	58.7	42 4.65	42 12.42	40 35.93	0 32.26	1.37	62.36	1.41	6.1
27	24 0.1	40 1	55.3	43.9	41 49.60	42 13.69	40 34.66	0 32.14	1.39	62.88	1.91	5.9
28	23 54.3	40 1	50.0	35.0	41 42.50	42 12.81	40 35.54	0 33.21	1.40	62.93	2.01	5.9
Jan. 1	24 2.9	40 2	6.8	54.8	42 0.80	42 14.92	40 33.43	0 31.90	1.39	63.09	2.10	5.3
8	24 22.4	40 2	42.8	26.6	42 34.70	42 16.44	40 31.91	0 32.55	1.39	64.06	2.30	4.3
9	23 48.2	40 1	57.8	42.0	41 49.90	42 14.89	40 33.46	0 31.76	1.34	63.10	2.30	5.8
21												

Date. 1871-2.		Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ.	ΔT + m.	Red. to 1872.0.	Mean Right Ascension for 1872.0.			
		1	2	3	4	5	6	7	8	9	10	11								
		Pr. I. 109.											$a_0 = 1^h 27^m 12^s.30$							
Dec.	1	57.8	0.4	3.1	8.1	10.7	13.3	16.0	18.7	23.7	26.4	28.8	13.36	-0.32	-0.71	+0.03	27	12.36		
	2	57.2	59.6	2.2	7.5	10.1	12.6	15.2	17.6	23.1	25.6	28.1	12.62	0.31	+0.08	0.04		12.43		
	12	50.4	52.8	56.0	0.7	3.3	5.8	8.4	11.1	16.3	18.9	21.6	5.94	0.32	6.68	0.16		12.46		
	27	38.0	40.8	43.3	48.3	51.1	53.6	56.2	58.8	4.1	6.7	9.3	53.66	0.29	18.62	0.40		12.39		
	28	37.1	39.9	42.3	47.5	50.2	52.8	55.5	58.2	3.1	5.8	8.5	52.81	0.37	19.59	0.41		12.44		
Jan.	8	27.9	30.5	33.0	38.2	40.8	43.3	45.8	48.5	53.7	56.3	59.0	43.36	0.34	28.88	0.60		12.50		
	21	...	...	...	1.4	4.0	6.6	9.2	12.0	...	...	...	6.64	0.31	5.28	0.81		12.42		
		ν PERSEI.*											$a_0 = 1^h 30^m 8^s.68$							
Dec.	1	50.4	53.5	56.5	2.6	5.7	8.8	11.9	14.9	21.0	24.1	27.2	8.78	+0.40	-0.70	+0.32	30	8.80		
	2	49.6	52.6	55.6	1.7	4.8	8.0	10.9	14.0	20.1	23.2	26.2	7.88	0.39	+0.09	0.33		8.69		
	11	43.5	46.5	49.6	55.7	58.8	2.0	5.0	8.1	14.2	17.2	20.3	1.90	0.39	5.98	0.44		8.71		
	12	42.8	45.8	48.9	55.0	58.1	1.3	4.3	7.4	13.7	16.6	19.7	1.24	0.41	6.69	0.45		8.79		
	17	38.9	41.7	44.9	51.1	54.1	57.1	0.3	3.3	9.3	12.5	15.6	57.16	0.42	10.57	0.54		8.69		
	27	30.7	33.7	36.7	42.8	45.9	48.9	52.1	55.1	1.2	4.6	7.6	49.03	0.37	18.62	0.72		8.74		
	28	29.7	32.5	35.6	41.8	44.9	47.8	50.9	53.9	0.2	3.3	6.4	47.91	0.49	19.59	0.74		8.73		
Jan.	1	25.6	28.6	31.8	37.8	41.0	44.0	47.1	50.1	56.3	59.4	2.5	44.02	0.42	23.42	0.82		8.68		
	8	20.0	23.1	26.2	32.3	35.4	38.5	41.5	44.6	50.7	53.8	56.9	38.46	0.44	28.88	0.99		8.77		
	9	19.1	22.2	25.3	31.3	34.4	37.5	40.5	43.7	49.8	52.9	56.0	37.52	0.46	29.71	1.01		8.70		
	21	43.5	46.4	49.5	55.6	58.7	1.7	4.8	8.0	14.0	17.1	20.2	1.77	0.39	5.29	1.27		8.72		
		τ ANDROMEDÆ.											$a_0 = 1^h 33^m 1^s.91$							
Dec.	11	39.0	41.6	44.3	49.7	52.4	54.9	57.8	0.5	5.7	8.4	11.2	55.04	+0.29	+5.99	+0.50	33	1.82		
	12	38.4	41.0	43.8	49.0	51.7	54.3	57.1	59.8	5.2	7.8	10.5	54.42	0.31	6.69	0.51		1.93		
	17	34.3	37.0	39.7	45.0	47.8	50.5	53.0	55.8	1.3	3.8	6.6	50.44	0.32	10.57	0.57		1.90		
	28	25.2	28.0	30.5	35.8	38.5	41.2	43.9	46.5	51.8	54.6	57.2	41.20	0.36	19.59	0.73		1.88		
Jan.	1	21.2	24.0	26.6	32.0	34.6	37.3	39.8	42.6	48.0	50.6	53.4	37.28	0.31	23.42	0.79		1.80		
	8	15.7	18.4	20.9	26.4	29.0	31.7	34.5	37.1	42.5	45.2	47.8	31.75	0.33	28.89	0.91		1.88		
	9	14.9	17.4	20.2	25.5	28.2	30.8	33.5	36.1	41.6	44.3	47.0	30.86	0.34	29.71	0.93		1.84		
		ν PISCUM.*											$a_0 = 1^h 34^m 46^s.30$							
Dec.	11	27.4	29.5	31.6	35.5	37.6	39.7	41.8	43.8	48.0	50.0	52.1	39.73	+0.01	+5.99	+0.51	34	46.24		
	17	22.8	24.8	26.9	30.9	33.0	35.1	37.1	39.2	43.3	45.4	47.5	35.09	0.02	10.57	0.55		46.23		
	28	13.7	15.7	17.7	22.0	24.0	26.0	28.0	30.1	34.3	36.5	38.5	26.04	0.02	19.59	0.65		46.30		
Jan.	1	9.8	11.8	13.9	17.9	20.0	22.0	24.2	26.2	30.4	32.4	34.5	22.10	0.02	23.43	0.70		46.25		
	8	4.2	6.3	8.4	12.6	14.6	16.6	18.6	20.7	24.9	26.9	29.0	16.62	0.02	28.89	0.79		46.32		
	9	3.5	5.5	7.5	11.7	13.7	15.8	17.9	19.9	24.0	26.1	28.1	15.79	0.02	29.71	0.80		46.32		
	21	27.7	29.9	31.8	36.0	38.0	40.1	42.3	44.3	48.4	50.5	52.5	40.14	0.02	5.29	0.93		46.38		
		σ PISCUM.*											$a_0 = 1^h 38^m 38^s.31$							
Dec.	1	26.0	28.0	30.0	34.1	36.3	38.4	40.4	42.5	46.8	48.8	50.8	38.37	+0.04	-0.70	+0.45	38	38.16		
	6	22.8	24.9	26.9	31.1	33.2	35.2	37.4	39.4	43.6	45.7	47.7	35.26	0.04	+2.54	0.47		38.31		
	11	19.0	21.2	23.3	27.3	29.4	31.6	33.6	35.8	39.9	42.0	44.1	31.56	0.04	5.99	0.50		38.09		
	17	14.5	16.6	18.6	22.8	24.8	27.0	29.1	31.1	35.2	37.3	39.4	26.94	0.04	10.57	0.55		38.10		
	28	5.4	7.4	9.5	13.8	15.8	17.9	20.0	22.0	26.2	28.3	30.3	17.87	0.05	19.59	0.65		38.16		
Jan.	1	1.6	3.6	5.7	9.9	11.9	14.0	16.1	18.2	22.3	24.5	26.5	14.03	0.04	23.43	0.68		38.18		
	8	56.0	58.1	0.1	4.3	6.3	8.5	10.6	12.6	16.7	18.7	20.8	8.43	0.05	28.89	0.77		38.14		
	9	55.1	57.2	59.3	3.5	5.6	7.6	9.6	11.6	16.0	18.1	20.0	7.60	0.05	29.71	0.79		38.15		
	21	19.6	21.5	23.6	27.8	29.8	31.8	34.0	36.2	40.3	42.4	44.4	31.95	0.04	5.29	0.91		38.19		

Date. 1871-2.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean Reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.								
			E.	G.																
Pl. I. 109.													$\delta_0 = -37^\circ 31' 26''.0$							
Dec.	1	27	5.7	45	4	50.1	39.2	49	44.65	49	52.82	27	4.47	-5	34.09	-2.50	+63.89	+14.89	31	22.3
	2	26	55.3	45	4	39.2	28.2	49	33.70	49	52.06	27	3.71	5	37.68	2.45	64.12	15.07		24.6
	12	26	48.6	45	4	42.4	31.5	49	36.95	49	55.32	27	6.97	5	31.71	2.87	62.36	16.74		22.4
	27	26	30.8	45	4	43.1	32.9	49	38.00	50	2.31	27	13.96	5	30.54	2.84	62.88	17.63		26.8
	28	26	39.7	45	4	43.6	29.5	49	36.55	49	50.46	27	2.11	5	41.59	2.94	62.93	17.73		26.0
Jan.	8	26	19.6	45	4	43.3	29.6	49	36.45	50	1.61	27	13.26	5	34.78	2.70	64.06	19.44		27.2
	21	27	14.4	50	0	21.1	0.8	50	10.95	50	2.67	27	14.32	5	22.63	2.34	55.58	19.61		24.1
v PERSEI.*													$\delta_0 = +47^\circ 58' 42''.9$							
Dec.	1	30	37.7	25	0	45.3	26.6	25	35.95	25	10.05	57	38.30	+0	6.07	-0.04	+63.89	-5.39	58	42.8
	2	29	35.9	20	4	50.9	30.9	24	40.90	25	9.57	57	38.78	0	6.13	0.24	64.12	5.59		43.2
	11	29	29.3	20	4	44.7	28.5	24	36.60	25	5.81	57	42.54	0	5.89	0.67	61.67	6.69		42.7
	12	29	41.5	20	4	57.9	38.5	24	48.20	25	5.85	57	42.50	0	6.03	0.50	62.36	6.79		43.6
	17	29	29.3	20	4	49.9	32.0	24	40.95	25	5.95	57	42.40	0	5.92	0.59	61.58	7.29		42.0
	27	29	20.2	20	4	50.1	31.7	24	40.90	25	6.71	57	41.64	0	6.01	0.66	62.88	7.99		41.9
	28	30	10.6	25	0	37.4	15.2	25	26.30	25	5.96	57	42.39	0	6.20	+0.03	62.93	8.09		43.5
Jan.	1	29	18.4	20	4	52.7	33.3	24	43.00	25	5.94	57	42.41	0	5.96	-0.61	63.09	8.20		42.7
	8	29	16.3	20	4	59.0	35.9	24	47.45	25	7.34	57	41.01	0	6.08	0.43	64.06	8.20		42.5
	9	29	16.1	20	4	58.0	35.5	24	46.75	25	5.93	57	42.42	0	5.93	0.42	63.10	8.20		42.8
	21	30	12.4	25	0	23.3	53.9	25	8.60	24	59.10	57	49.25	0	5.86	+0.19	55.58	7.80		43.1
τ ANDROMEDÆ.													$\delta_0 = +39^\circ 55' 41''.1$							
Dec.	11	32	29.5	25	2	43.8	29.6	27	36.70	28	2.89	54	45.46	-0	2.57	-0.61	+61.67	-5.06	55	38.9
	12	32	29.7	25	2	45.8	29.7	27	37.75	28	3.11	54	45.24	0	2.63	0.61	62.36	5.14		39.2
	17	32	22.9	25	2	43.2	26.4	27	34.80	28	3.03	54	45.32	0	2.58	0.64	61.58	5.48		38.2
	28	32	22.1	25	2	54.2	31.9	27	43.05	28	2.66	54	45.69	0	2.70	0.58	62.93	5.96		39.4
Jan.	1	32	18.5	25	2	51.7	35.4	27	43.55	28	2.85	54	45.50	0	2.60	0.58	63.09	6.00		39.0
	8	32	13.6	25	2	56.2	36.2	27	46.20	28	4.79	54	43.56	0	2.65	0.50	64.06	5.95		38.5
	9	32	5.9	25	2	48.3	28.2	27	38.25	28	3.92	54	44.43	0	2.59	0.56	63.10	5.93		38.4
ν PISCUM.*													$\delta_0 = +4^\circ 50' 20''.1$							
Dec.	11	34	25.1	30	2	30.3	20.3	32	25.30	32	44.77	50	3.58	-0	46.14	-1.77	+61.67	+4.16	50	21.5
	17	34	14.5	30	2	23.8	12.0	32	17.90	32	45.38	50	2.97	0	46.37	1.77	61.58	4.56		21.0
	28	34	22.6	30	2	48.3	32.1	32	40.20	32	44.73	50	3.62	0	48.58	1.84	62.93	5.36		21.5
Jan.	1	34	29.4	30	2	5.0	50.0	32	57.50	32	47.76	50	0.59	0	46.67	1.73	63.09	5.40		20.7
	8	33	59.1	30	2	31.7	15.9	32	23.80	32	47.14	50	1.21	0	47.64	1.72	64.06	5.80		21.7
	9	34	3.8	30	2	40.1	24.7	32	32.40	32	48.41	49	59.94	0	46.46	1.73	63.10	5.90		20.8
	21	34	21.0	30	2	27.4	5.0	32	16.20	32	41.68	50	6.67	0	45.94	1.77	55.58	6.60		21.1
ο PISCUM.*													$\delta_0 = +8^\circ 30' 44''.7$							
Dec.	1	38	23.3	50	2	13.8	0.7	52	7.25	52	27.24	30	21.11	-0	41.54	-1.42	+63.89	+2.56	30	44.6
	6	38	17.4	50	2	9.2	54.1	52	1.65	52	25.35	30	23.00	0	41.64	1.43	62.51	2.76		45.2
	11	38	9.0	50	2	1.8	52.1	51	56.95	52	26.87	30	21.48	0	40.30	1.62	61.67	2.96		44.2
	17	38	4.9	50	2	5.2	51.3	51	58.25	52	27.37	30	20.98	0	40.51	1.61	61.58	3.26		43.7
	28	37	55.6	50	2	5.0	49.9	51	57.45	52	26.97	30	21.38	0	42.44	1.63	62.93	3.86		44.1
Jan.	1	37	53.0	50	2	7.3	54.3	52	0.80	52	28.60	30	19.75	0	40.79	1.64	63.09	4.10		44.5
	8	37	51.8	50	2	15.6	59.0	52	7.30	52	29.19	30	19.16	0	41.61	1.58	64.06	4.50		44.5
	9	37	50.8	50	2	14.8	59.2	52	7.00	52	29.24	30	19.11	0	40.60	1.58	63.10	4.50		44.5
	21	38	10.8	50	2	5.3	41.8	51	53.55	52	21.48	30	26.87	0	40.13	1.61	55.58	5.20		45.9

Date. 1871-2.		Right Ascension Wires.										Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.			
		1	2	3	4	5	6	7	8	9	10							11	
		Pl. I. 170.										$a_0 = 1^h 41^m 6^s.00$							
Dec.	1	50.7	53.2	55.7	1.0	3.5	6.1	8.6	11.2	16.4	19.1	21.6	6.10	+0.27	-	0.70	+0.40	41	6.07
	2	49.8	52.4	55.1	0.1	2.8	5.3	7.9	10.6	15.6	18.4	20.9	5.35	0.26	+	0.09	0.41		6.10
	6	47.4	50.1	52.7	57.8	0.3	2.9	5.5	8.1	13.2	15.8	18.6	2.94	0.26		2.54	0.44		6.18
	11	43.8	46.3	49.0	54.2	56.7	59.4	2.0	4.6	9.7	12.2	14.9	59.35	0.26		5.99	0.48		6.08
	17	...	...	...	49.5	53.0	54.5	57.2	59.7	...	...	...	54.78	0.28		10.57	0.54		6.17
	28	30.1	32.5	35.1	40.2	42.9	45.5	48.1	50.6	55.8	58.5	1.1	45.49	0.33		10.60	0.69		6.11
Jan.	9	19.7	22.1	24.9	30.0	32.6	35.1	37.7	40.4	45.6	48.2	50.7	35.18	0.31		29.71	0.86		6.06
	21	44.1	46.7	49.1	54.3	56.8	59.4	1.9	4.8	9.8	12.5	15.0	59.49	0.26		5.29	1.08		6.12
		χ CETI.										$a_0 = 1^h 43^m 17^s.92$							
Dec.	6	2.7	4.6	6.9	11.1	13.1	15.2	17.2	19.4	23.6	25.8	27.8	15.22	-0.09	+	2.54	+0.34	43	18.01
	17	...	...	...	3.0	4.8	7.2	9.2	11.4	...	...	...	7.12	0.10		10.57	0.42		18.01
	28	45.4	47.5	49.6	53.7	56.0	58.0	0.0	2.0	6.3	8.5	10.7	57.97	0.11		19.60	0.52		18.08
Jan.	1	41.5	43.6	45.6	49.8	52.0	54.1	56.2	58.3	2.5	4.6	6.6	54.07	0.10		23.43	0.57		17.97
	9	35.2	37.2	39.3	43.5	45.6	47.7	49.7	51.9	56.0	58.1	0.3	47.68	0.10		29.71	0.66		17.95
	21	59.4	1.6	3.7	7.8	9.9	11.9	13.9	16.1	20.3	22.4	24.6	11.96	0.09		5.29	0.82		17.98
		ζ CETI.										$a_0 = 1^h 45^m 8^s.53$							
Dec.	1	56.3	58.4	0.5	4.7	6.8	8.9	11.0	13.1	17.4	19.4	21.6	8.92	-0.09	-	0.70	+0.32	45	8.45
	2	55.8	58.0	0.0	4.0	6.1	8.2	10.3	12.5	16.7	18.8	20.8	8.29	0.09	+	0.09	0.32		8.61
	6	...	...	...	1.7	3.7	5.8	8.0	10.1	...	...	...	5.86	0.09		2.54	0.34		8.65
	11	49.9	51.8	54.0	58.2	0.2	2.4	4.4	6.6	10.7	12.7	14.8	2.34	0.09		5.99	0.27		8.61
	17	45.1	47.1	49.2	53.5	55.5	57.7	59.7	1.9	6.1	8.0	10.4	57.66	0.09		10.57	0.42		8.56
	28	36.2	38.2	40.2	44.3	46.6	48.6	50.7	52.8	56.9	59.2	1.2	48.63	0.10		19.60	0.53		8.66
Jan.	1	...	...	...	40.6	42.7	44.7	46.8	49.0	...	...	...	44.76	0.09		23.43	0.56		8.66
	9	...	...	...	34.1	36.2	38.4	40.5	42.6	...	...	...	38.36	0.10		29.71	0.65		8.62
	21	50.0	52.0	54.3	58.5	0.5	2.6	4.6	6.8	11.0	13.2	15.2	2.61	0.09		5.29	0.81		8.62
		β ARIETIS.*										$a_0 = 1^h 47^m 34^s.33$							
Dec.	1	...	...	...	30.0	32.2	34.4	36.6	38.8	...	...	...	34.40	+0.13	-	0.70	+0.44	47	34.27
	2	20.6	22.8	25.0	29.3	31.5	33.7	35.9	38.1	42.5	44.6	46.8	33.71	0.12	+	0.09	0.44		34.36
	6	18.1	20.4	22.6	26.9	29.1	31.2	33.5	35.7	40.0	42.2	44.4	31.28	0.12		2.54	0.46		34.40
	11	14.5	16.7	18.9	23.4	25.5	27.7	29.9	32.2	36.4	38.7	40.8	27.70	0.12		5.99	0.49		34.30
	17	10.0	12.1	14.4	18.7	20.8	23.0	25.2	27.4	31.8	34.0	36.2	23.06	0.13		10.57	0.53		34.29
	28	1.0	3.0	5.2	9.7	11.8	14.0	16.2	18.4	22.8	24.9	27.1	14.01	0.15		19.60	0.63		34.39
Jan.	1	57.0	59.0	1.3	5.6	7.9	10.1	12.3	14.4	18.7	21.0	23.2	10.04	0.13		23.43	0.68		34.28
	9	50.6	52.8	54.9	59.3	1.5	3.7	6.0	8.1	12.5	14.7	16.8	3.72	0.14		29.71	0.78		34.35
	21	14.8	17.0	19.2	23.6	25.7	28.0	20.1	32.3	36.7	38.9	41.2	27.96	0.12		5.29	0.93		34.30
	30	13.6	15.8	18.0	22.5	24.6	26.8	29.0	31.1	35.5	37.7	39.8	26.76	0.15		6.39	1.00		34.30
Feb.	1	12.7	14.8	17.0	21.3	23.5	25.8	28.0	30.1	34.4	36.3	39.1	25.73	0.17		7.40	1.10		34.40
		λ ARIETIS pr.										$a_0 = 1^h 50^m 47^s.92$							
Dec.	1	34.7	37.0	39.2	43.7	45.8	48.1	50.4	52.7	57.1	59.3	1.5	48.14	+0.14	-	0.70	+0.42	50	48.00
	2	33.9	36.2	38.5	42.9	45.2	47.3	49.6	51.8	56.3	58.5	0.8	47.36	0.14	+	0.09	0.42		48.01
	6	31.5	33.7	36.0	40.4	42.6	44.9	47.1	49.5	53.9	56.1	58.3	44.91	0.17		2.54	0.44		48.06
	11	28.0	30.2	32.5	36.8	39.0	41.3	43.6	45.8	50.3	52.4	54.8	41.34	0.14		6.00	0.47		47.95
	17	23.1	25.5	27.7	32.0	34.4	36.7	38.9	41.2	45.6	47.8	50.1	36.64	0.15		10.57	0.51		47.87
	28	14.2	16.5	18.7	23.1	25.4	27.5	29.8	32.1	36.5	38.7	41.0	27.59	0.17		19.60	0.62		47.98
Jan.	1	10.4	12.7	14.8	19.4	21.5	23.7	25.9	28.2	32.6	35.0	37.1	23.75	0.15		23.43	0.66		47.99
	24	28.0	30.2	32.4	36.8	39.0	41.3	43.5	45.7	50.2	52.3	54.7	41.28	0.13		5.48	0.97		47.86
	30	26.9	29.1	31.4	36.0	38.1	40.3	42.6	44.8	49.2	51.5	53.7	40.33	0.17		6.39	1.06		47.95
Feb.	1	25.9	28.2	30.6	34.9	37.0	39.2	41.4	43.7	48.3	50.7	52.9	39.35	0.20		7.40	0.09		48.04

Date. 1871-2.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
PI. I. 170. $\delta_0 = + 37^\circ 18' 52''.5$												
Dec. 1	40 49.0	0 4	41.7	24.8	4 33.25	4 51.46	17 56.89	-0 5.49	-0.46	+63.89	-3.48	18 51.3
2	40 42.5	0 4	33.2	17.3	4 25.25	4 49.53	17 58.82	0 5.55	0.53	64.12	3.58	53.3
6	40 37.5	0 4	30.3	11.7	4 21.00	4 48.05	18 0.30	0 5.50	0.54	62.51	3.80	53.0
11	40 36.6	0 4	31.3	17.0	4 24.15	4 48.32	18 0.03	0 5.33	0.92	61.67	4.39	51.1
17	41 8.4	5 0	12.0	56.1	5 4.05	4 49.57	17 58.78	0 5.36	0.27	61.58	4.79	49.9
28	40 22.2	0 4	34.9	12.9	4 23.90	4 48.71	17 59.64	0 5.61	0.97	62.93	5.22	50.8
Jan. 9	40 44.2	5 0	9.0	50.0	4 59.50	4 49.92	17 58.43	0 5.37	0.79	63.10	5.21	50.2
21	40 34.6	0 4	28.3	1.5	4 14.90	4 41.41	18 6.94	0 5.31	0.92	55.58	4.74	51.5
χ CETI. $\delta_0 = - 11^\circ 19' 14''.2$												
Dec. 6	42 54.9	40 1	23.8	12.7	41 18.25	41 44.90	18 56.55	-1 24.30	-1.92	+62.51	+8.19	19 12.1
17	43 28.6	40 2	21.1	14.0	42 17.55	41 49.33	19 0.98	1 22.03	2.17	61.58	9.39	14.2
28	42 36.5	40 1	25.4	14.5	41 19.95	41 48.17	18 59.82	1 25.93	2.05	62.93	10.45	14.4
Jan. 1	42 41.9	40 1	42.0	33.9	41 37.95	41 53.97	19 5.62	1 22.57	2.12	63.09	10.76	16.5
9	42 31.9	40 1	39.1	28.0	41 33.55	41 54.29	19 5.94	1 22.20	2.06	63.10	11.35	15.7
21	42 53.9	40 1	32.8	14.8	41 23.80	41 47.56	18 59.21	1 21.26	2.06	55.58	12.03	14.9
ζ CETI. $\delta_0 = - 10^\circ 58' 6''.2$												
Dec. 1	44 53.9	20 0	27.2	17.4	20 22.30	20 42.02	57 53.67	-1 23.06	-1.90	+63.89	+7.38	58 7.4
2	44 52.5	20 0	23.8	16.2	20 20.00	20 40.76	57 52.41	1 23.97	1.90	64.12	7.50	6.7
6	45 22.0	20 1	6.5	55.2	21 0.85	20 39.69	57 51.34	1 23.25	1.92	62.51	7.96	6.0
11	44 57.1	20 0	40.6	34.9	20 37.75	20 44.85	57 56.50	1 20.57	1.98	61.67	8.53	8.8
17	44 38.2	20 0	22.5	14.2	20 18.35	20 43.97	57 55.62	1 21.02	1.91	61.58	9.18	7.8
28	44 28.6	20 0	19.7	9.2	20 14.45	20 40.74	57 52.39	1 24.85	1.89	62.93	10.30	5.9
Jan. 1	45 11.9	20 1	24.2	15.7	21 19.95	20 44.34	57 55.99	1 21.55	2.01	63.09	10.65	5.8
9	44 50.7	20 1	10.0	57.2	21 3.60	20 47.44	57 59.09	1 21.17	2.00	63.10	11.23	7.9
21	44 47.4	20 0	30.9	11.9	20 21.40	20 41.38	57 53.03	1 20.24	1.92	55.58	12.09	7.5
β ARIETIS.* $\delta_0 = + 20^\circ 10' 52''.5$												
Dec. 1	47 42.5	10 2	50.2	35.2	12 42.70	12 32.52	10 15.83	-0 25.27	-1.02	+63.89	-0.01	10 53.4
2	47 13.9	10 2	15.1	0.3	12 7.70	12 32.58	10 15.77	0 25.55	1.04	64.12	0.01	53.3
6	47 12.9	10 2	16.3	0.9	12 8.60	12 31.72	10 16.63	0 25.33	1.03	62.51	0.11	52.7
11	47 7.5	10 2	13.7	2.1	12 7.90	12 33.28	10 15.07	0 24.52	1.23	61.67	0.21	50.8
17	47 0.7	10 2	11.9	58.2	12 5.05	12 33.20	10 15.15	0 24.65	1.24	61.58	0.21	50.6
28	47 19.8	10 2	48.9	30.2	12 39.55	12 32.26	10 16.09	0 25.82	1.27	62.93	-0.11	51.8
Jan. 1	46 45.7	10 2	10.0	55.7	12 2.85	12 33.38	10 14.97	0 24.82	1.27	63.09	+0.00	52.0
9	46 43.3	10 2	16.8	1.5	12 9.15	12 34.78	10 13.57	0 24.70	1.19	63.10	0.20	51.0
21	47 5.4	10 2	11.2	46.1	11 58.65	12 27.05	10 21.30	0 24.41	1.24	55.58	0.80	52.0
30	47 9.4	10 2	47.7	19.2	12 33.45	12 11.59	10 36.76	0 25.98	1.28	41.68	1.40	52.6
Feb. 1	47 9.2	10 2	59.3	30.3	12 14.02	12 14.02	10 34.33	0 25.68	1.28	42.78	+1.60	51.7
λ ARIETIS pr. $\delta_0 = + 22^\circ 58' 14''.3$												
Dec. 1	50 27.7	20 4	58.7	40.2	24 49.45	25 14.59	57 33.76	-0 21.82	-1.06	+63.89	-0.69	58 14.1
2	50 27.8	20 4	57.3	41.5	24 49.40	25 13.56	57 34.79	0 22.06	1.06	64.12	0.72	15.1
6	50 24.7	20 4	57.5	38.8	24 48.15	25 13.05	57 35.30	0 21.88	1.06	62.51	0.84	14.0
11	50 18.2	20 4	51.8	38.0	24 44.90	25 13.38	57 34.97	0 21.17	1.50	61.67	0.95	13.0
17	50 10.0	20 4	48.4	32.6	24 40.50	25 13.29	57 35.06	0 21.29	1.54	61.58	1.03	12.8
28	50 7.4	25 0	58.0	39.2	25 48.60	25 13.50	57 34.85	0 22.30	0.98	62.93	1.00	13.5
Jan. 1	50 16.0	25 0	13.7	57.0	25 5.35	25 14.85	57 33.50	0 21.43	0.83	63.09	-0.99	13.3
24	50 25.5	25 0	4.8	33.9	24 49.35	25 8.44	57 39.91	0 21.53	1.46	58.20	+0.22	15.3
30	50 19.6	25 0	34.4	2.8	25 18.60	24 53.59	57 54.76	0 22.43	0.92	41.68	+0.54	13.6
Feb. 1	50 17.9	25 0	35.7	5.1	25 20.40	24 54.42	57 53.93	0 22.15	0.92	42.78	+0.65	14.3

Date.	Right Ascension Wires.											Seconds of Transit over Mean Wire.	$\pi \tan \delta$ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
1871-2.	1	2	3	4	5	6	7	8	9	10	11					
50 CASSIOPELÆ.* $a_0 = 1^h 52^m 32^s.90$																
Dec. 1	s. ...	s. ...	s. ...	s. 20.3	s. 26.8	s. 33.3	s. 40.0	s. 46.4	s. ...	s. ...	s. ...	s. 33.36	s. +1.12	s. - 0.69	s. -0.75	m. s. 52 33.04
6	...	...	...	16.7	23.2	29.8	36.6	43.1	...	...	...	29.88	1.08	+ 2.55	-0.66	32.85
11	46.9	53.6	0.1	13.1	19.7	26.4	32.7	39.6	52.6	59.3	6.0	26.36	1.08	6.00	-0.49	32.95
17	41.8	48.4	55.1	8.5	14.8	21.4	28.0	34.7	47.8	54.8	1.1	21.49	1.17	10.58	-0.25	32.99
Jan. 9	21.7	28.3	35.0	47.8	54.6	1.6	7.7	14.4	27.3	34.1	40.5	1.18	1.26	29.72	+0.91	33.07
21	45.9	52.2	58.6	11.8	18.4	24.9	31.3	38.1	50.9	58.1	4.5	24.97	1.10	5.29	+1.61	32.97
24	...	...	58.0	11.6	17.9	24.5	31.0	37.6	50.8	57.4	4.0	24.46	1.00	5.48	+1.79	32.73
v CETI. $a_0 = 1^h 53^m 58^s.46$																
Dec. 2	45.1	47.3	49.5	54.0	56.2	58.3	0.6	2.8	7.2	9.4	11.6	58.36	-0.17	+ 0.10	+0.16	53 58.45
28	25.5	26.6	24.9	34.2	36.5	38.7	41.0	43.1	47.6	49.7	51.9	38.60	0.20	19.61	0.38	58.39
Jan. 30	38.0	40.4	42.6	47.0	49.2	51.4	53.7	55.8	0.2	2.6	4.7	51.42	0.19	6.39	0.83	58.45
Feb. 1	37.3	39.5	41.7	46.2	48.4	50.5	52.8	55.0	59.3	1.6	3.7	50.54	0.22	7.40	0.86	58.58
7	34.7	36.8	39.0	43.5	45.6	47.8	50.0	52.4	56.8	59.1	1.2	47.90	0.17	9.78	0.95	58.46
γ ANDROMEDÆ.* $a_0 = 1^h 56^m 2^s.93$																
Dec. 1	46.7	49.3	52.0	57.6	0.2	3.0	5.7	8.4	14.0	16.8	19.7	3.04	+0.32	- 0.69	+0.30	56 2.97
2	45.8	48.5	51.3	56.8	59.5	2.3	5.0	7.7	12.3	16.1	18.8	2.19	0.31	+ 0.10	0.30	2.90
6	43.3	46.1	49.0	54.3	57.1	59.8	2.5	5.4	10.7	13.6	16.3	59.83	0.31	2.55	0.34	3.03
11	39.8	42.6	45.3	51.0	53.6	56.3	59.1	1.8	7.2	10.1	12.9	56.34	0.31	6.00	0.37	3.02
17	35.1	37.9	40.5	46.0	48.8	51.6	54.3	57.0	2.6	5.4	8.2	51.58	0.34	10.58	0.43	2.93
28	26.0	28.7	31.4	37.0	39.7	42.5	45.0	48.0	53.3	56.3	58.9	42.44	0.39	19.61	0.59	3.03
Jan. 1	22.0	24.8	27.4	33.0	35.8	38.6	41.2	44.0	49.4	52.2	55.0	38.49	0.33	23.44	0.65	2.91
9	15.7	18.3	21.1	26.7	29.4	32.2	34.8	37.6	43.1	45.8	48.6	32.12	0.36	29.72	0.79	2.99
21	39.8	42.6	45.4	50.7	53.7	56.4	59.2	2.0	7.4	10.1	12.7	56.36	0.31	5.29	1.01	2.97
30	38.4	41.1	44.0	49.4	52.2	54.9	57.6	0.5	6.0	8.7	11.5	54.94	0.37	6.39	1.20	2.90
Feb. 7	35.0	37.8	40.5	46.0	48.7	51.4	54.3	57.0	2.5	5.3	8.1	51.51	0.32	9.78	1.35	2.96
α ARIETIS.* $a_0 = 1^h 59^m 57^s.68$																
Dec. 1	44.3	46.6	48.9	53.2	55.6	57.8	59.9	2.2	6.6	8.9	11.1	57.74	+0.14	- 0.69	+0.39	59 57.58
2	43.7	45.8	48.1	52.5	54.7	57.1	59.3	1.5	5.9	8.1	10.5	57.02	0.14	+ 0.10	0.39	57.65
6	41.2	43.5	45.7	50.1	52.3	54.6	56.8	59.1	3.5	5.8	8.1	54.61	0.14	2.55	0.41	57.71
28	24.0	26.1	28.4	32.9	35.1	37.3	39.6	41.9	46.3	48.5	50.6	37.34	0.17	19.61	0.59	57.71
Jan. 1	20.1	22.3	24.5	29.0	31.2	33.4	35.7	37.9	42.3	44.7	46.9	33.45	0.15	23.44	0.63	57.67
9	13.7	15.8	18.1	22.7	24.8	27.1	29.3	31.6	36.0	38.3	40.4	27.07	0.16	29.72	0.72	57.67
21	38.0	40.1	42.3	46.9	49.1	51.4	53.5	55.9	0.2	2.4	4.7	51.32	0.14	5.29	0.87	57.62
31	36.3	38.4	40.7	45.2	47.4	49.7	51.8	54.0	58.6	0.7	3.0	49.62	0.20	6.87	1.02	57.71
β TRIANGULI.* $a_0 = 2^h 1^m 55^s.94$																
Dec. 28	20.7	23.1	25.4	30.5	33.0	35.5	37.8	40.4	45.4	48.0	50.4	35.47	+0.29	+19.61	+0.57	1 55.94
Jan. 1	16.8	19.2	21.7	26.7	29.1	31.6	34.1	36.6	41.6	44.0	46.6	31.64	0.25	23.44	0.62	55.95
9	10.3	12.8	15.2	20.3	22.6	25.3	27.6	30.2	35.2	37.7	40.3	25.23	0.27	29.72	0.74	55.96
31	32.7	35.3	37.7	42.7	45.1	47.6	50.1	52.7	57.6	0.1	2.6	47.65	0.33	6.87	1.09	55.94
Feb. 7	...	...	...	39.7	42.2	44.7	47.1	49.7	...	...	...	44.68	0.24	9.78	1.22	55.92
55 CASSIOPELÆ.* $a_0 = 2^h 4^m 27^s.89$																
Dec. 11	51.3	56.1	1.1	11.3	16.3	21.3	26.4	31.4	41.5	46.6	51.7	21.36	+0.79	+ 6.00	-0.21	4 27.94
28	36.5	41.8	46.9	57.0	2.1	7.0	12.1	16.8	27.2	32.3	37.3	7.09	0.99	19.61	+0.29	27.98
Jan. 1	33.3	38.3	43.0	53.0	58.0	3.1	8.2	13.2	23.4	28.4	33.4	3.21	0.85	23.44	0.44	27.94
14	...	...	...	13.3	18.2	23.2	28.0	33.4	...	...	...	23.22	0.83	2.95	0.97	27.97
21	50.5	55.4	0.4	10.5	15.5	20.5	25.6	30.6	40.8	45.7	51.0	20.59	0.81	5.29	1.29	27.96

Date. 1871-2.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
50 CASSIOPELÆ.* $\delta_0 = + 71^\circ 48' 0''.7$												
Dec. 1	52 54.9	35 1	42.8	20.2	36 31.50	36 22.51	46 25.84	+0 34.93	+1.01	+63.89	-6.79	47 58.9
6	52 56.8	35 1	42.3	17.9	36 30.10	36 18.85	46 29.50	0 35.00	0.96	62.51	7.79	60.2
11	52 10.6	35 1	18.1	59.0	36 8.55	36 15.16	46 33.19	0 33.87	0.97	61.67	8.99	60.7
17	51 34.7	35 1	4.8	43.8	35 54.40	36 13.97	46 34.38	0 34.07	0.68	61.58	10.39	60.3
Jan. 9	51 51.3	35 1	20.5	57.2	36 8.85	36 12.99	46 35.36	0 34.12	1.01	63.10	13.50	60.1
21	51 34.6	35 0	58.8	27.0	35 42.90	36 3.97	46 44.38	0 33.74	0.65	55.58	13.90	60.4
24	53 9.4	35 1	44.0	8.3	36 26.15	36 7.42	46 40.93	0 34.45	0.65	58.20	13.90	60.3
v CETI. $\delta_0 = - 21^\circ 41' 56''.7$												
Dec. 2	53 42.9	0 3	31.7	23.9	3 27.80	3 47.08	40 58.73	-2 8.17	-2.23	+64.12	+9.92	41 55.1
28	53 20.8	0 3	32.1	17.9	3 25.00	3 47.14	40 58.79	2 9.48	2.55	62.93	13.45	54.4
Jan. 30	53 35.9	0 4	3.2	40.2	3 51.70	(3 32.80)	40 44.45	2 10.31	2.59	41.68	15.27	(60.4)
Feb. 1	53 30.5	0 4	9.7	46.2	3 57.95	3 33.56	40 45.21	2 8.69	2.58	42.78	15.26	58.4
7	53 27.9	0 4	6.5	47.0	3 56.75	3 32.36	40 44.01	2 7.52	2.58	41.71	15.18	57.2
\gamma ANDROMEDÆ.* $\delta_0 = + 41^\circ 42' 50''.9$												
Dec. 1	55 37.3	40 0	40.6	22.8	40 31.70	40 57.38	41 50.97	-0 0.72	-0.23	+63.89	-3.91	42 50.0
2	56 28.2	40 1	30.7	14.7	41 22.70	40 56.72	41 51.63	0 0.73	0.27	64.12	4.01	50.7
6	55 30.6	40 0	34.7	16.3	40 25.50	40 54.68	41 53.67	0 0.72	0.28	62.51	4.51	50.7
11	55 32.7	40 0	38.0	24.2	40 31.10	40 54.68	41 53.67	0 0.70	0.24	61.67	5.01	49.4
17	55 33.1	40 0	42.5	26.5	40 34.50	40 52.99	41 55.36	0 0.70	0.20	61.58	5.61	50.4
28	55 19.7	40 0	41.2	22.3	40 31.75	40 54.43	41 53.92	0 0.74	0.24	62.93	6.41	49.5
Jan. 1	55 8.9	40 0	31.9	16.7	40 24.30	40 53.87	41 54.48	0 0.70	0.32	63.09	6.50	50.0
9	55 12.7	40 0	43.2	24.3	40 33.75	40 53.14	41 55.21	0 0.70	0.18	63.10	6.60	50.8
21	55 34.7	40 0	37.1	11.0	40 24.05	40 45.73	42 2.62	0 0.70	0.21	55.58	6.70	50.6
30	55 44.5	40 0	58.0	27.0	40 42.50	40 32.22	42 16.13	0 0.74	0.15	41.68	6.70	50.2
Feb. 7	55 28.7	40 1	9.7	42.2	40 55.95	40 33.62	42 14.73	0 0.72	0.30	41.71	6.60	48.8
\alpha ARIETIS.* $\delta_0 = + 22^\circ 51' 21''.5$												
Dec. 1	59 36.9	30 1	50.7	33.3	31 42.00	32 7.66	50 40.69	-0 21.97	-0.96	+63.89	-0.67	51 21.0
2	59 37.2	30 1	52.2	35.2	31 43.70	32 8.12	50 40.23	0 22.22	0.95	64.12	0.67	20.5
6	59 32.9	30 1	49.3	28.0	31 38.65	32 5.42	50 42.93	0 22.02	0.95	62.51	0.87	21.6
28	59 12.2	30 1	44.3	23.2	31 33.75	32 4.71	50 43.64	0 22.43	1.13	62.93	1.07	21.9
Jan. 1	59 12.8	30 1	50.0	29.8	31 39.90	32 5.31	50 43.04	0 21.57	1.12	63.09	0.90	22.5
9	59 5.2	30 1	49.3	30.6	31 39.95	32 6.96	50 41.39	0 21.47	1.07	63.10	0.70	21.2
21	59 30.6	30 1	47.8	19.0	31 33.40	31 58.93	50 49.42	0 21.22	1.09	55.58	-0.20	22.5
31	59 23.9	30 2	32.0	1.0	32 16.50	31 45.42	51 2.93	0 22.08	1.24	42.06	+0.80	22.9
\beta TRIANGULI.* $\delta_0 = + 34^\circ 22' 49''.7$												
Dec. 28	1 59.5	0 1	24.0	4.7	1 14.35	0 48.36	22 00.01	-0 8.90	-0.56	+62.93	-4.35	22 49.1
Jan. 1	1 12.3	0 0	34.6	18.3	0 26.45	0 47.77	22 0.58	0 8.55	0.53	63.09	4.40	50.2
9	1 1.9	0 0	32.6	13.1	0 22.85	0 48.59	21 59.76	0 8.51	0.56	63.10	4.50	49.3
31	1 24.7	0 1	8.8	36.8	0 52.80	0 27.89	22 20.46	0 8.75	0.64	42.06	3.70	49.4
Feb. 7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
55 CASSIOPELÆ.* $\delta_0 = + 65^\circ 55' 21''.0$												
Dec. 11	4 10.8	25 3	52.6	32.8	28 42.70	28 48.49	53 59.86	+0 26.18	+0.42	+61.67	-8.34	55 19.8
28	3 34.5	25 3	43.0	16.9	28 29.95	28 47.75	54 0.60	0 27.57	0.21	62.93	10.34	21.0
Jan. 1	3 47.8	25 3	53.0	26.9	28 39.90	28 48.36	54 0.99	0 26.52	0.49	63.09	11.60	19.5
14	4 56.1	25 4	14.3	50.8	29 2.55	28 44.59	54 3.76	0 27.36	0.26	61.23	12.70	19.9
21	3 36.9	25 3	27.2	55.8	28 11.50	28 35.36	54 12.99	0 26.07	0.11	55.58	12.90	21.8

Date. 1871-2.		Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
		1	2	3	4	5	6	7	8	9	10	11						
		6 PERSEI.* $a_0 = 2^h 5^m 6^s.19$																
Jan.	9	16.0	19.1	22.4	28.8	32.1	35.3	38.4	41.7	48.2	51.5	54.6	35.28	+0.50	+29.72	+0.73	m. 5	s. 6.23
	31	38.0	41.2	44.5	50.9	54.2	57.5	0.6	3.7	10.3	13.6	16.8	57.39	0.60	6.87	1.26		6.12
Feb.	7	35.2	38.3	41.5	48.0	51.3	54.6	57.7	1.0	7.5	10.8	14.0	54.54	0.44	9.78	1.46		6.22
		γ TRIANGULI.* $a_0 = 2^h 9^m 42^s.64$																
Dec.	1	28.0	30.5	32.7	37.8	40.4	42.7	45.2	47.6	52.5	54.9	57.4	42.70	+0.23	- 0.69	+0.34	9	42.58
	9	22.8	25.2	27.6	32.6	35.0	37.4	39.9	42.3	47.2	49.9	52.2	37.46	0.22	+ 4.53	0.36		42.57
	12	20.6	23.0	25.5	30.4	33.0	35.4	37.8	40.3	45.1	47.6	50.1	35.35	0.24	6.71	0.37		42.67
Jan.	14	23.8	26.3	28.8	33.7	36.3	38.6	41.1	43.7	48.6	51.0	53.5	38.67	0.24	2.95	0.76		42.62
	30	20.2	22.8	25.0	30.2	32.4	35.0	37.4	39.9	44.7	47.2	49.8	34.96	0.27	6.39	1.03		42.65
Feb.	7	16.6	19.0	21.4	26.6	29.1	31.3	34.0	36.3	41.3	43.7	46.1	31.40	0.24	9.78	1.16		42.58
		67 CETI.* $a_0 = 2^h 10^m 35^s.98$																
Dec.	11	17.4	19.4	21.5	25.6	27.7	29.7	31.8	33.8	38.0	40.0	42.1	29.73	-0.06	+ 6.01	+0.27	10	35.95
	17	12.6	14.7	16.8	21.0	23.1	25.1	27.1	29.3	33.4	35.5	37.6	25.11	0.06	10.59	0.31		35.95
Jan.	21	17.8	19.7	21.8	26.0	28.0	30.1	32.2	34.3	38.4	40.5	42.6	30.13	0.06	5.29	0.66		36.02
	31	16.0	18.0	20.2	24.5	26.3	28.4	30.6	32.5	36.8	38.8	40.9	28.45	0.08	6.87	0.80		36.04
Feb.	1	15.5	17.7	19.8	23.8	25.8	27.9	30.0	32.0	36.2	38.3	40.4	27.95	0.08	7.40	0.82		36.09
		α CETI.* $a_0 = 2^h 12^m 52^s.85$																
Dec.	1	41.0	43.0	45.0	49.2	51.4	53.3	55.4	57.6	1.6	3.7	5.8	53.36	-0.04	- 0.68	+0.26	12	52.90
	9	...	...	...	44.0	46.0	48.0	50.1	52.2	...	...	...	48.06	0.04	+ 4.53	0.28		52.83
		ι CASSIOPEIÆ.* $a_0 = 2^h 18^m 32^s.86$																
Dec.	1	1.9	7.2	12.5	22.9	28.1	33.4	38.6	43.9	54.3	59.6	4.8	33.38	+0.86	- 0.68	-0.51	18	33.05
	9	...	...	...	17.8	22.6	27.9	33.4	38.5	...	...	...	28.04	0.79	+ 4.54	0.39		32.98
	11	55.4	0.4	5.7	16.0	21.3	26.4	31.5	36.9	47.3	52.4	57.9	26.47	0.83	6.01	0.35		32.96
	17	50.2	55.2	0.7	11.0	16.5	21.6	26.8	32.0	42.7	47.8	53.2	21.61	0.90	10.59	-0.20		32.90
	28	41.0	46.2	51.5	1.6	6.8	12.4	17.6	22.8	33.6	38.4	43.6	12.32	1.03	19.62	+0.14		33.11
	29	39.9	45.2	50.5	0.9	6.0	11.2	16.5	22.0	32.6	37.6	42.8	11.38	1.00	20.52	0.17		33.07
Jan.	1	37.6	42.5	47.7	58.1	3.3	8.3	13.7	18.8	29.7	34.6	40.1	8.58	0.89	23.45	0.29		33.21
	6	33.2	38.5	43.7	54.0	59.3	4.6	9.6	15.0	25.3	30.6	36.0	4.53	0.84	27.27	0.49		33.13
	9	...	...	...	...	56.3	1.8	7.0	12.4	...	...	...	1.78	0.96	29.73	0.61		33.08
	14	57.2	2.4	7.5	18.2	23.2	28.6	33.7	38.9	49.3	54.5	59.7	28.47	0.86	2.95	-0.81		33.09
	21	54.5	59.7	4.7	15.5	20.7	26.0	31.0	36.2	46.7	51.9	57.3	25.84	0.84	5.29	1.11		33.08
		ξ^2 CETI.* $a_0 = 2^h 21^m 21^s.28$																
Dec.	1	9.2	11.3	13.4	17.4	19.5	21.5	23.7	25.8	29.8	32.0	34.1	21.61	+0.04	- 0.68	+0.30	21	21.27
	9	4.0	6.0	8.1	12.2	14.4	16.4	18.5	20.6	24.6	26.8	29.0	16.42	0.03	+ 4.54	0.32		21.31
	11	2.6	4.7	6.7	10.8	12.9	14.9	17.0	19.2	23.3	25.4	27.4	14.99	0.03	6.01	0.32		21.35
	17	58.0	0.0	2.0	6.0	8.3	10.3	12.3	14.4	18.6	20.7	22.8	10.31	0.04	10.59	0.35		21.29
	29	47.8	50.0	52.1	56.2	58.4	0.4	2.5	4.5	8.6	10.7	12.8	0.36	0.05	20.52	0.42		21.35
Jan.	1	45.0	47.0	49.2	53.2	55.4	57.5	59.5	1.6	5.7	7.8	9.9	57.44	0.04	23.45	0.45		21.38
	5	...	...	...	50.0	52.0	54.0	56.1	58.3	...	...	...	54.08	0.04	26.71	0.50		21.33
	6	41.1	43.2	45.2	49.3	51.4	53.6	55.6	57.7	1.8	3.8	6.0	53.52	0.04	27.27	0.51		21.34
	21	3.0	5.0	7.0	11.2	13.2	15.3	17.4	19.5	23.7	25.8	27.8	15.35	0.04	5.29	0.67		21.35

Date. 1871-2.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.	
			E.	G.									
6 PERSEI.* $\delta_0 = + 50^\circ 28' 10''.2$													
Jan. 9	m. 4	s. 8.7	55 0	28.3	6.6	55 17.45	55 40.10	27 8.25	+0	8.61	+0.10	+63.10 -9.00	28 11.1
31	4	31.4	55 1	0.0	24.1	55 42.05	55 20.33	27 28.02	0	8.86	0.05	42.06 8.70	10.3
Feb. 7	4	23.3	55 1	1.2	29.7	55 45.45	55 19.39	27 28.96	0	8.87	-0.03	41.71 8.10	11.4
γ TRIANGULI.* $\delta_0 = + 33^\circ 15' 13''.7$													
Dec. 1	9	18.6	5 3	6.9	51.1	7 59.00	8 25.98	14 22.37	-0	9.96	-0.63	+63.89 -2.31	15 13.4
9	10	0.8	5 3	58.3	42.5	8 50.40	8 24.32	14 24.03	0	10.03	0.69	62.24 2.91	12.6
12	10	0.3	5 3	59.5	44.1	8 51.80	8 23.82	14 24.53	0	9.89	0.66	62.36 3.21	13.1
Jan. 14	9	19.3	5 3	9.8	51.7	8 0.75	8 22.47	14 25.88	0	10.10	0.79	61.23 4.10	12.1
30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Feb. 7	9	28.3	5 3	19.2	53.0	8 6.10	8 2.69	14 46.66	0	10.02	0.79	41.71 2.90	14.7
67 CETI.* $\delta_0 = - 7^\circ 0' 48''.0$													
Dec. 11	10	12.9	20 3	13.2	6.1	23 9.65	23 31.97	0 43.62	-1	9.97	-2.17	+61.67 +6.67	0 47.4
17	10	10.7	20 3	18.9	9.9	23 14.40	23 33.53	0 45.18	1	10.42	2.18	61.58 7.27	48.9
Jan. 21	10	13.8	20 3	18.7	58.8	23 8.75	23 30.41	0 42.06	1	9.71	2.16	55.58 7.70	50.6
31	10	9.7	20 3	52.1	27.2	23 39.65	23 15.16	0 26.81	1	12.57	2.23	42.06 10.60	48.9
Feb. 1	10	7.6	20 3	53.8	29.7	23 41.75	23 15.31	0 26.96	1	13.34	2.23	42.78 10.70	49.0
o CETI.* $\delta_0 = - 3^\circ 33' 36''.5$													
Dec. 1	12	38.0	55 1	12.2	2.4	56 7.30	56 27.87	33 39.52	-1	4.01	-1.71	+63.89 +4.84	33 36.5
9	13	5.3	55 1	54.7	44.8	56 49.75	56 26.77	33 38.42	1	4.42	1.74	62.24 5.54	36.8
ι CASSIOPEIÆ.* $\delta_0 = + 66^\circ 49' 29''.0$													
Dec. 1	17	43.3	30 4	31.6	8.3	34 19.95	34 46.33	48 2.02	+0	28.20	+0.30	+63.89 -5.32	49 29.1
9	17	56.4	30 4	37.4	14.9	34 26.15	34 42.79	48 5.56	0	28.38	0.59	62.24 7.22	29.5
11	18	16.9	30 4	45.9	25.5	34 35.70	34 40.76	48 7.59	0	27.31	0.35	61.67 7.72	29.2
17	17	37.9	30 4	26.0	5.3	34 15.65	34 38.67	48 9.68	0	27.50	0.03	61.58 9.02	29.8
28	17	44.6	30 4	39.6	12.7	34 26.15	34 40.74	48 7.61	0	28.77	0.20	62.93 11.12	28.4
29	17	30.7	30 4	28.3	5.9	34 17.10	34 38.53	48 9.82	0	27.99	0.04	62.38 11.32	28.9
Jan. 1	18	6.9	30 4	50.2	26.3	34 38.25	34 39.14	48 9.21	0	27.67	0.33	63.09 11.60	28.7
6	18	50.7	35 0	10.8	53.3	35 2.05	34 37.72	48 10.63	0	27.43	0.55	61.73 12.20	28.1
9	18	28.2	35 0	2.5	38.6	34 50.55	34 36.65	48 11.70	0	27.52	+0.31	63.10 12.60	30.0
14	17	35.6	30 4	20.7	57.0	34 8.85	34 36.70	48 11.65	0	28.58	-0.02	61.23 13.00	28.4
21	17	30.8	30 4	15.6	44.3	33 59.95	34 28.91	48 19.44	0	27.21	-0.14	55.58 13.20	28.9
ξ^2 CETI.* $\delta_0 = + 7^\circ 53' 5''.8$													
Dec. 1	21	5.3	25 4	49.4	35.8	29 42.60	30 4.21	52 44.14	-0	42.62	-1.55	+63.89 +2.15	53 6.0
9	20	57.9	25 4	45.1	32.0	29 38.55	30 3.08	52 45.27	0	42.88	1.55	62.24 2.45	5.5
11	20	55.2	25 4	43.0	32.8	29 37.90	30 4.16	52 44.19	0	41.26	1.98	61.67 2.55	5.2
17	20	48.7	25 4	42.2	29.0	29 35.60	30 4.25	52 44.10	0	41.55	1.98	61.58 2.85	5.0
29	20	39.7	25 4	44.7	29.3	29 37.00	30 4.45	52 43.90	0	42.29	2.02	62.38 3.55	5.5
Jan. 1	20	37.5	25 4	45.8	33.3	29 39.55	30 5.94	52 42.41	0	41.82	2.03	63.09 3.70	5.3
5	21	4.9	30 0	25.7	15.0	30 20.35	30 6.03	52 42.32	0	40.81	1.38	61.75 4.00	5.9
6	21	10.3	30 0	32.0	22.3	30 27.15	30 4.87	52 43.48	0	41.45	1.41	61.73 4.00	6.3
21	20	56.7	25 4	48.1	24.8	29 36.45	30 1.25	52 47.10	0	41.11	1.97	55.58 4.80	4.4

Date.		Right Ascension Wires.										Seconds of transit over Mean Wire.	n tang. δ + κ.	ΔT + m.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
1871-2.		1	2	3	4	5	6	7	8	9	10						11
27 ARIETIS. $a_0 = 2^h 23^m 48^s.57$																	
Dec.	1	36.0	38.1	40.1	44.5	46.6	48.8	50.8	53.0	57.3	59.6	1.7	48.77	+0.10	-0.68	+0.31	23 48.50
	9	30.6	32.8	34.9	39.2	41.3	43.6	45.7	48.0	52.1	54.4	56.5	43.55	0.09	+4.54	0.33	48.51
	11	29.3	31.4	33.7	37.9	40.0	42.1	44.2	46.4	50.8	53.0	55.0	42.16	0.10	6.01	0.33	48.60
	17	24.6	26.6	28.8	33.0	35.2	37.4	39.6	42.0	46.1	48.1	50.3	37.43	0.11	10.59	0.36	48.49
	28	...	...	...	24.0	26.2	28.4	30.5	32.6	...	...	...	28.34	0.12	19.62	0.43	48.51
	29	14.6	16.7	18.9	23.1	25.3	27.4	29.6	31.8	36.0	38.2	40.4	27.45	0.12	20.52	0.44	48.53
Jan.	6	7.7	9.8	12.1	16.4	18.6	20.7	22.8	24.9	29.2	31.4	33.6	20.65	0.10	27.27	0.53	48.55
	21	29.6	31.7	33.9	38.1	40.4	42.5	44.6	46.8	51.0	53.2	55.4	42.47	0.10	5.29	0.71	48.57
σ CETI. $a_0 = 2^h 26^m 1^s.31$																	
Dec.	1	49.3	51.2	53.3	57.7	59.8	2.0	4.1	6.2	10.5	12.6	14.7	1.94	-0.12	-0.68	+0.08	26 1.22
	9	44.0	46.1	48.2	52.6	54.7	56.7	58.9	0.9	5.4	7.5	9.7	56.79	0.12	+4.54	0.11	1.32
	17	...	...	...	46.3	48.4	50.6	52.7	54.8	...	...	...	50.56	0.13	10.59	0.15	1.17
	28	28.8	30.9	33.0	37.2	39.4	41.6	43.8	45.8	50.1	52.3	54.5	41.58	0.14	19.63	0.24	1.31
	29	27.9	30.1	32.2	36.5	38.6	40.8	42.9	45.0	49.3	51.4	53.6	40.75	0.14	20.53	0.25	1.39
Jan.	5	21.5	23.7	25.9	30.0	32.2	34.3	36.5	38.8	42.8	45.0	47.2	34.35	0.12	26.71	0.32	1.26
	24	...	...	...	51.1	53.2	55.4	57.5	59.6	...	...	...	55.36	0.11	5.48	0.57	1.30
5 URSÆ MINORIS L. C. $a_0 = 14^h 27^m 49^s.40$																	
Dec.	9	...	...	...	24.3	33.6	42.3	50.9	59.6	...	...	...	42.14	-1.39	+4.54	+3.99	27 49.28
	11	48.9	57.5	6.1	23.4	32.1	40.8	49.5	58.2	15.3	23.8	32.6	40.75	1.45	6.01	3.88	49.19
	18	...	...	...	19.0	27.2	36.0	44.8	53.4	...	...	...	36.08	1.37	11.46	3.41	49.58
	28	...	...	...	...	...	28.8	37.6	45.6	3.6	12.0	20.8	28.92	1.81	19.63	2.63	49.37
Jan.	1	33.9	42.2	50.7	8.7	16.9	25.5	34.2	42.7	59.9	8.3	17.2	25.47	1.56	23.46	2.29	49.66
	21	53.0	1.9	10.3	27.8	36.6	45.1	53.6	2.4	19.6	28.3	37.0	45.05	1.47	5.29	0.39	49.26
	24	...	...	...	28.0	36.7	45.0	53.5	2.5	...	...	...	45.14	1.34	5.48	+0.09	49.37
Feb.	7	50.3	58.5	7.8	24.9	33.4	42.1	51.2	59.6	17.1	25.4	34.2	42.23	1.52	9.79	-1.32	49.18
ν ARIETIS.* $a_0 = 2^h 31^m 33^s.11$																	
Dec.	9	14.9	17.0	19.3	23.6	26.0	28.2	30.3	32.5	37.0	39.2	41.3	28.12	+0.12	+4.55	+0.31	31 33.10
	17	8.7	11.0	13.3	17.6	19.8	22.2	24.3	26.4	31.1	33.2	35.6	22.11	0.14	10.60	0.35	33.20
	18	8.1	10.1	12.3	16.6	18.9	21.1	23.2	25.5	29.9	32.1	34.3	21.10	0.12	11.47	0.35	33.04
	28	59.6	1.8	4.1	8.4	10.6	12.8	15.0	17.2	21.7	23.9	26.1	12.84	0.16	19.63	0.40	33.03
	29	58.9	1.0	3.2	7.5	9.8	12.0	14.2	16.4	20.9	23.1	25.3	12.03	0.16	20.53	0.41	33.13
Jan.	1	55.8	58.0	0.3	4.5	6.8	9.0	11.2	13.4	17.9	21.1	22.4	9.13	0.14	23.46	0.44	33.17
	5	52.5	54.7	57.0	1.3	3.5	5.8	7.9	10.2	14.5	16.8	18.9	5.74	0.14	26.72	0.48	33.08
	6	52.0	54.1	56.3	0.7	3.0	5.2	7.4	9.6	14.0	16.2	18.5	5.18	0.13	27.27	0.49	33.07
	14	16.2	18.4	20.8	25.0	27.2	29.5	31.6	33.8	38.3	40.5	42.7	29.45	0.13	2.95	0.57	33.10
δ CETI.* $a_0 = 2^h 32^m 55^s.40$																	
Dec.	9	...	...	...	...	...	50.6	52.6	54.7	58.8	0.9	2.9	50.60	-0.01	+4.55	+0.23	32 55.37
	17	32.2	34.2	36.5	40.5	42.6	44.5	46.6	48.6	52.8	54.9	57.0	44.58	0.02	10.60	0.26	55.42
	18	31.3	33.4	35.5	39.5	41.5	43.6	45.7	47.7	51.8	53.8	56.0	43.62	0.01	11.47	0.27	55.35
	28	...	...	...	31.3	33.3	35.4	37.4	39.5	...	...	...	35.38	0.02	19.63	0.32	55.31
Jan.	24	37.1	39.0	41.0	45.2	47.3	49.4	51.4	53.4	57.5	59.6	1.6	49.31	0.01	5.48	0.60	55.38
Feb.	7	32.4	34.5	36.6	40.6	42.7	44.8	46.8	48.8	53.0	55.0	57.1	44.76	0.02	9.79	0.80	55.33

Date. 1871-2.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.							
			E.	G.															
27 ARIETIS. $\delta_0 = +17^\circ 8' 11''.6$																			
Dec. 1	23	33.6	10	4	58.9	46.0	14	52.45	15	11.90	7	36.45	-0	29.26	-1.24	+63.89	+0.43	8	10.3
9	23	27.5	10	4	54.4	42.4	14	48.40	15	9.00	7	39.35	0	29.44	1.23	62.24	0.39	11.3	
11	23	21.6	10	4	50.5	40.4	14	45.45	15	11.99	7	36.36	0	28.33	1.69	61.67	0.39	8.4	
17	23	22.3	10	4	57.8	45.3	14	51.55	15	10.87	7	37.48	0	28.53	1.67	61.58	0.42	9.3	
28	23	37.3	15	0	30.0	13.2	15	21.60	15	10.08	7	38.27	0	29.84	1.08	62.93	0.62	10.9	
29	23	6.4	10	4	51.9	37.3	14	44.60	15	11.60	7	36.75	0	29.04	1.74	62.38	0.64	9.0	
Jan. 6	23	0.5	10	4	50.3	40.3	14	45.30	15	11.15	7	37.20	0	28.46	1.59	61.73	0.86	9.7	
21	23	20.5	10	4	48.0	24.9	14	36.45	15	4.60	7	43.75	0	28.23	1.69	55.58	1.45	10.9	
σ CETI. $\delta_0 = -15^\circ 48' 26''.7$																			
Dec. 1	26	22.1	10	1	15.3	6.1	11	10.70	10	44.68	47	56.33	-1	39.70	-2.01	+63.89	+6.93	48	27.2
9	25	49.0	10	0	39.2	29.7	10	34.45	10	44.50	47	56.15	1	40.32	2.03	62.24	8.14	28.1	
17	25	56.5	10	1	0.4	51.6	10	56.00	10	48.40	48	0.05	1	37.21	2.14	61.58	9.26	28.6	
28	25	26.5	10	0	31.1	18.7	10	24.90	10	44.35	47	56.00	1	41.70	2.05	62.93	10.66	26.2	
29	25	24.2	10	0	33.8	23.6	10	28.70	10	50.08	48	1.73	1	38.95	2.05	62.38	10.78	29.6	
Jan. 5	25	55.2	10	1	23.0	16.0	11	19.50	10	52.71	48	4.36	1	35.47	2.10	61.75	11.48	28.7	
24	26	12.7	10	1	20.7	58.5	11	9.60	10	47.31	47	58.96	1	38.25	2.12	58.20	13.02	28.1	
5 URSÆ MINORIS L. C. $\delta_0 = +103^\circ 44' 7''.5$																			
Dec. 9	27	36.0	40	1	47.6	24.0	41	35.80	41	33.86	41	14.49	+1	54.08	+2.08	+62.24	-7.05	44	5.8
11	27	19.6	40	1	46.0	24.1	41	35.05	41	28.33	41	20.02	1	49.68	1.98	61.67	7.65	5.7	
18	27	6.1	40	1	43.9	24.0	41	33.95	41	24.40	41	23.95	1	49.08	2.05	61.98	9.85	7.2	
28	28	35.3	40	1	25.6	58.2	41	11.90	41	33.03	41	15.32	1	55.63	2.53	62.93	12.65	3.8	
Jan. 1	27	10.5	40	1	1.3	56.3	40	58.80	40	54.03	41	54.32	1	51.17	2.02	63.09	13.70	6.9	
21	26	29.1	40	1	55.5	23.6	41	39.55	41	15.37	41	32.98	1	49.28	2.65	55.58	17.10	3.4	
24	28	10.1	40	1	28.2	51.1	41	9.65	41	17.67	41	30.68	1	51.69	2.07	58.20	17.40	5.3	
Feb. 7	26	29.5	40	1	56.8	20.5	41	38.65	41	1.33	41	47.02	1	54.01	2.73	41.71	18.00	7.5	
ν ARIETIS.* $\delta_0 = +21^\circ 24' 22''.5$																			
Dec. 9	31	5.5	55	3	41.8	25.4	58	33.60	59	1.77	23	46.58	-0	23.94	-1.07	+62.24	-0.49	24	23.3
17	31	3.7	55	3	44.9	29.5	58	37.20	59	0.13	23	48.22	0	23.20	1.37	61.58	0.59	24.6	
18	31	7.1	55	3	52.0	39.0	58	45.50	59	2.95	23	45.40	0	22.91	1.35	61.98	0.59	22.5	
28	30	49.0	55	3	40.0	20.4	58	30.20	58	59.86	23	48.49	0	24.27	1.43	62.93	0.69	25.0	
29	30	51.0	55	3	45.3	28.3	58	36.80	59	2.97	23	45.38	0	23.61	1.42	62.38	0.59	22.1	
Jan. 1	30	45.7	55	3	42.2	26.8	58	34.50	59	3.67	23	44.68	0	23.35	1.44	63.09	0.60	22.4	
5	30	46.5	55	3	46.3	31.2	58	38.75	59	2.68	23	45.67	0	22.78	1.30	61.75	0.60	22.7	
6	30	47.2	55	3	46.1	33.3	58	39.70	59	2.13	23	46.22	0	23.14	1.31	61.73	0.60	22.9	
14	31	8.5	55	3	43.2	24.8	58	34.00	59	0.17	23	48.18	0	24.12	1.32	61.23	0.40	23.6	
δ CETI.* $\delta_0 = -0^\circ 13' 30''.4$																			
Dec. 9	33	10.1	35	1	58.4	47.3	36	52.85	36	26.74	13	38.39	-0	57.41	-1.72	+62.24	+4.24	13	31.0
17	32	34.1	35	1	19.8	9.8	36	14.80	36	28.86	13	40.51	0	55.64	1.76	61.58	4.84	31.5	
18	32	33.6	35	1	20.4	11.0	36	15.70	36	29.09	13	40.74	0	54.95	1.77	61.98	5.04	30.4	
28	32	50.7	35	1	54.7	40.0	36	47.35	36	26.87	13	38.52	0	58.20	1.85	62.93	5.84	29.8	
Jan. 24	32	32.6	35	1	15.6	51.6	36	3.60	36	25.96	13	37.61	0	56.23	1.73	58.20	7.50	29.9	
Feb. 7	32	28.4	35	1	44.1	21.1	36	32.60	36	11.08	13	22.73	0	57.40	1.80	41.71	8.10	32.1	

Date. 1871-2.		Right Ascension Wires.										Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
		1	2	3	4	5	6	7	8	9	10							11
θ PERSEI.* $a_0 = 2^h 35^m 28^s.02$																	
Dec.	1	s. ...	s. ...	s. ...	s. 21.7	s. 25.0	s. 28.2	s. 31.2	s. 34.4	s. ...	s. ...	s. ...	s. 28.10	s. +0.41	s. - 0.67	s. +0.11	m. 35 s. 27.95
	9	4.4	7.5	10.6	16.8	20.0	23.0	26.1	29.2	35.4	38.5	41.7	23.02	0.38	+ 4.55	0.13	28.08
	17	58.1	1.0	4.4	10.5	13.7	16.7	19.8	23.0	29.2	32.3	35.5	16.74	0.43	10.60	0.19	27.96
	18	57.5	0.4	3.6	9.7	12.8	15.9	19.0	22.2	28.4	31.6	34.7	15.98	0.37	11.47	0.20	28.02
Jan.	5	41.8	44.9	47.9	54.2	57.3	0.4	3.5	6.7	12.8	15.9	19.2	0.42	0.42	26.72	0.45	28.01
	6	41.2	44.4	47.5	53.5	56.7	59.8	2.9	6.1	12.3	15.4	18.6	59.85	0.40	27.28	0.47	28.00
	14	5.4	8.3	11.5	17.8	20.9	24.1	27.1	30.2	36.6	39.7	42.7	24.03	0.41	2.95	0.61	28.00
Feb.	7	58.0	1.0	4.2	10.4	13.6	16.6	19.7	22.9	29.0	32.2	35.4	16.64	0.41	9.79	1.19	28.03
γ CETI seq.* $a_0 = 2^h 36^m 40^s.18$																	
Dec.	17	16.9	19.0	21.3	25.1	27.2	29.3	31.3	33.4	37.5	39.7	41.7	29.31	+0.00	+10.60	+0.26	36 40.17
	28	7.9	10.0	11.9	16.1	18.2	20.4	22.3	24.4	28.4	30.5	32.6	20.25	0.00	19.64	0.31	40.20
	29	7.0	9.0	11.2	15.1	17.2	19.3	21.3	23.4	27.5	29.6	31.7	19.30	0.00	20.54	0.32	40.16
Jan.	1	4.1	6.2	8.2	12.5	14.5	16.4	18.5	20.6	24.7	26.6	28.9	16.47	0.00	23.47	0.35	40.29
	24	21.7	23.8	25.9	30.2	32.2	34.2	36.2	38.3	42.4	44.5	46.5	34.17	0.00	5.48	0.60	40.25
Feb.	7	...	...	...	25.5	27.6	29.6	31.6	33.7	...	...	...	29.60	0.00	9.79	0.80	40.19
τ^1 ERIDANI. $a_0 = 2^h 39^m 7^s.94$																	
Dec.	17	44.3	46.4	48.5	52.7	55.0	57.3	59.3	1.6	6.0	8.1	10.3	57.23	-0.16	+10.60	+0.04	39 7.71
	18	43.2	45.5	47.6	52.0	54.3	56.4	58.5	0.7	5.0	7.3	9.4	56.36	0.14	11.47	0.05	7.74
	28	35.2	37.3	39.5	43.8	46.0	48.2	50.3	52.5	57.0	59.1	1.3	48.20	0.18	19.64	0.13	7.79
	29	34.3	36.4	38.6	42.9	45.1	47.3	49.5	51.7	56.0	58.3	0.5	47.33	0.17	20.54	0.13	7.83
Jan.	5	27.9	30.1	32.2	36.6	38.9	41.0	43.2	45.4	49.7	51.9	54.1	41.00	0.15	26.72	0.21	7.78
	6	27.4	29.5	31.8	36.1	38.4	40.6	42.7	44.9	49.1	51.4	53.5	40.49	0.15	27.28	0.23	7.85
	14	51.6	53.8	55.9	0.4	2.5	4.7	6.8	9.2	13.4	15.6	17.8	4.70	0.15	2.95	0.32	7.82
	24	49.0	51.0	53.1	57.6	59.7	2.0	4.2	6.4	10.8	12.9	15.0	1.97	0.14	5.48	0.47	7.78
41 ARIETIS.* $a_0 = 2^h 42^m 27^s.17$																	
Dec.	17	2.3	4.6	6.9	11.4	13.8	16.1	18.4	20.6	25.2	27.5	30.0	16.07	+0.18	+10.60	+0.30	42 27.15
	18	1.6	3.8	6.1	10.7	13.0	15.2	17.5	19.8	24.4	26.8	29.0	15.26	0.16	11.47	0.30	27.19
	28	53.2	55.5	57.8	2.3	4.6	6.9	9.2	11.6	16.1	18.5	20.8	6.95	0.21	19.64	0.35	27.15
	29	52.4	54.5	56.9	1.4	3.8	6.0	8.4	10.8	15.3	17.5	19.8	6.07	0.21	20.54	0.36	27.18
Jan.	1	49.4	51.6	53.8	58.5	0.8	3.1	5.4	7.8	12.3	14.7	16.9	3.12	0.18	23.47	0.39	27.16
	5	46.0	48.4	50.7	55.2	57.6	59.9	2.2	4.5	9.0	11.4	13.7	59.87	0.18	26.72	0.43	27.20
	6	45.5	47.8	50.1	54.6	57.0	59.3	1.5	3.8	8.5	10.7	13.2	59.27	0.17	27.28	0.44	27.16
	14	9.7	12.0	14.3	18.9	21.2	23.5	25.9	28.0	32.7	35.0	37.3	23.50	0.18	2.95	0.54	27.17
	24	7.1	9.3	11.7	16.3	18.7	20.9	23.2	25.4	30.0	32.3	34.6	20.86	0.15	5.48	0.67	27.16
Feb.	14	0.8	3.2	5.6	10.1	12.4	14.7	17.0	19.3	24.0	26.3	28.5	14.72	0.13	11.32	1.01	27.18
τ PERSEI.* $a_0 = 2^h 45^m 11^s.61$																	
Dec.	9	46.7	49.9	53.3	0.1	3.2	6.6	10.0	13.3	20.0	23.4	26.8	6.66	+0.43	+ 4.55	+0.02	45 11.66
	17	40.4	43.7	46.9	53.9	57.3	0.6	4.0	7.3	14.1	17.4	20.6	0.56	0.49	10.60	0.09	11.74
	18	39.4	43.0	46.3	52.9	56.4	59.7	3.0	6.3	13.1	16.5	19.9	59.68	0.43	11.47	0.10	11.68
	28	31.1	34.5	37.8	44.6	47.9	51.2	54.6	58.0	4.5	8.0	11.4	51.24	0.56	19.64	0.22	11.66
	29	30.4	33.5	36.7	43.5	46.9	50.2	53.6	57.0	3.7	7.1	10.5	50.28	0.55	20.54	0.23	11.60
Jan.	1	27.3	30.7	34.0	40.7	44.1	47.4	50.6	54.0	0.8	4.3	7.6	47.41	0.49	23.47	0.29	11.66
	5	24.0	27.3	30.7	37.5	40.7	44.1	47.4	50.8	57.4	0.8	4.2	44.08	0.48	26.72	0.37	11.65
	6	23.5	26.6	30.1	36.8	40.1	43.4	46.6	50.3	56.9	0.3	3.7	43.48	0.46	27.29	0.39	11.62
	10	...	...	...	33.2	36.5	39.9	43.3	46.9	...	...	...	39.96	0.48	30.66	0.47	11.57
	12	...	...	...	1.3	4.5	8.0	11.4	14.8	...	...	...	8.00	0.50	2.69	0.50	11.69
	14	47.5	50.9	54.2	1.0	4.3	7.7	11.1	14.3	21.1	24.6	27.8	7.68	0.47	2.95	0.56	11.66

Date. 1871-2.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean Reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
θ PERSEI.* $\delta_0 = + 48^\circ 41' 6''.3$												
Dec. 1	m. 35 47.0	s. 40 3	15.6	54.8	43 5.20	42 48.50	39 59.85	+0 6.86	+0.02	+63.89	-3.69	40 6.9
9	34 54.7	40 2	30.9	11.3	42 21.10	42 46.11	40 2.24	0 6.90	-0.07	62.24	5.09	6.2
17	34 44.0	40 2	23.0	0.9	42 11.95	42 40.85	40 7.50	0 6.69	0.35	61.58	6.29	9.1
18	34 53.3	40 2	31.9	15.8	42 23.85	42 43.91	40 4.44	0 6.61	0.21	61.98	6.39	6.4
Jan. 5	34 29.9	40 2	23.0	5.0	42 14.00	42 40.96	40 7.39	0 6.57	0.24	61.75	8.40	7.1
6	34 32.5	40 2	27.0	11.2	42 19.10	42 43.32	40 5.03	0 6.67	0.21	61.73	8.50	4.7
14	34 58.2	40 2	29.0	7.2	42 18.10	42 40.90	40 7.45	0 6.96	0.19	61.23	8.90	6.5
Feb. 7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
γ CETI seq.* $\delta_0 = + 2^\circ 41' 41''.4$												
Dec. 17	36 10.7	40 1	2.2	48.8	40 55.50	41 20.37	41 27.98	-0 50.19	-1.63	+61.58	+4.11	41 41.8
28	35 57.8	40 0	58.6	40.3	40 49.45	41 19.41	41 28.94	0 52.49	1.63	62.93	4.81	42.6
29	36 0.4	40 1	3.9	48.9	40 56.40	41 21.67	41 26.68	0 51.07	1.64	62.38	4.91	41.3
Jan. 1	36 10.7	40 1	20.1	6.8	41 13.45	41 21.21	41 27.14	0 50.51	1.68	63.09	5.10	43.1
24	36 14.5	40 1	4.8	37.5	40 51.15	41 17.49	41 30.86	0 50.71	1.62	58.20	6.60	43.3
Feb. 7	36 2.9	40 1	47.8	23.6	41 35.70	41 0.70	42 47.65	0 51.78	1.73	41.71	7.20	43.1
τ^1 ERIDANI. $\delta_0 = - 19^\circ 7' 0''.0$												
Dec. 17	38 39.7	25 3	46.0	39.0	28 42.50	29 4.64	6 16.29	-1 50.97	-2.51	+61.58	+9.52	6 58.7
18	(38 44.8)	25 4	8.7	1.4	29 5.05	29 19.72	6 31.37	1 49.61	2.59	61.98	9.74	(71.8)
28	38 32.7	25 3	45.9	32.9	28 39.40	28 59.00	6 10.65	1 56.10	2.56	62.93	10.92	55.5
29	38 28.2	25 3	46.7	36.2	28 41.45	29 5.61	6 17.26	1 52.94	2.54	62.38	11.24	59.1
Jan. 5	38 23.9	25 3	49.3	41.7	28 45.50	29 7.13	6 18.78	1 49.02	2.45	61.75	12.03	56.5
6	38 21.6	25 3	46.1	39.9	28 43.00	29 6.90	6 18.55	1 50.70	2.43	61.73	12.13	57.8
14	38 47.2	25 3	43.5	32.2	28 37.85	28 59.98	6 11.63	1 55.50	2.43	61.23	12.88	55.4
24	38 50.4	25 3	59.0	36.7	28 47.85	29 2.49	6 14.14	1 52.17	2.55	58.20	13.56	57.1
41 ARIETIS.* $\delta_0 = + 26^\circ 43' 52''.1$												
Dec. 17	41 51.4	35 4	16.1	1.3	39 8.70	39 38.23	43 10.12	-0 16.96	-1.30	+61.58	-1.80	43 51.6
18	41 46.7	35 4	10.8	57.3	39 4.05	39 38.25	43 10.10	0 16.75	1.34	61.98	1.90	52.1
28	41 44.8	35 4	21.1	2.3	39 11.70	39 38.24	43 10.11	0 17.74	1.33	62.93	2.30	51.7
29	41 46.6	35 4	21.8	5.7	39 13.75	39 37.07	43 11.28	0 17.26	1.31	62.38	2.30	52.8
Jan. 1	41 39.7	35 4	19.0	2.9	39 10.95	39 38.93	43 9.42	0 17.07	1.35	63.09	2.30	51.8
5	41 39.4	35 4	20.5	6.0	39 13.25	39 37.76	43 10.59	0 16.66	1.19	61.75	2.30	52.2
6	41 40.7	35 4	22.6	9.3	39 15.95	39 38.19	43 10.16	0 16.91	1.18	61.73	2.30	51.5
14	42 5.1	35 4	21.9	4.0	39 12.95	39 34.95	43 13.40	0 17.65	1.18	61.23	2.30	53.5
24	42 1.3	35 4	24.6	55.0	39 9.80	39 33.23	43 15.12	0 17.14	1.25	58.20	2.10	52.8
Feb. 14	42 37.2	35 4	2.1	38.2	38 50.15	39 16.52	43 31.83	0 16.80	1.23	41.76	1.00	54.6
τ PERSEI.* $\delta_0 = + 52^\circ 14' 11''.1$												
Dec. 9	44 33.9	5 4	28.1	9.9	9 19.00	9 45.89	13 2.46	+0 10.86	-0.07	+62.24	-5.35	14 10.1
17	44 36.7	5 4	30.3	13.1	9 21.70	9 41.29	13 7.06	0 10.52	0.31	61.58	6.75	12.1
18	44 23.0	5 4	20.2	3.7	9 11.95	9 42.03	13 6.32	0 10.39	0.51	61.98	6.85	11.3
28	44 14.0	5 4	22.9	0.1	9 11.50	9 42.00	13 6.35	0 11.00	0.55	62.93	8.25	11.5
29	45 24.3	10 0	19.5	0.0	10 9.75	9 41.87	13 6.48	0 10.70	+0.07	62.38	8.35	11.3
Jan. 1	44 17.7	5 4	26.2	8.1	9 17.15	9 41.50	13 6.85	0 10.59	-0.44	63.09	8.60	11.5
5	44 19.2	5 4	28.1	10.3	9 19.20	9 39.61	13 8.74	0 10.34	0.24	61.75	9.00	11.6
6	44 10.6	5 4	21.8	5.2	9 13.50	9 40.47	13 7.88	0 10.49	0.36	61.73	9.10	10.6
10	44 38.3	5 4	46.1	28.7	9 37.40	9 38.79	13 9.56	0 10.47	0.11	62.76	9.40	13.3
12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
14	44 35.6	4	24.1	1.0	9 12.55	9 38.88	13 9.47	0 10.95	0.33	61.23	9.70	11.6

Date.	Right Ascension Wires.											Seconds of transit over Mean Wire.	$\pi \text{ tang. } \delta$ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
1871-2.	1	2	3	4	5	6	7	8	9	10	11					
47 H. CEPHEI.* $a_0 = 2^h 49^m 10^s.53$																
Dec. 9	2.9	13.1	23.6	45.4	55.8	6.2	16.5	28.2	49.2	0.3	10.8	6.55	+1.74	+ 4.55	-2.31	49 10.53
17	...	...	...	37.7	49.3	0.2	10.6	21.5	...	...	...	59.86	1.96	10.60	1.97	10.45
18	55.1	5.8	16.5	38.0	48.5	59.3	9.7	20.6	42.0	53.1	4.0	59.33	1.71	11.47	1.92	10.59
Jan. 5	38.8	48.9	0.0	21.2	31.6	42.5	52.8	4.0	25.4	35.8	47.0	42.54	1.92	26.72	0.68	10.50
6	38.0	48.7	59.0	20.8	31.2	41.9	52.7	3.6	24.0	35.7	46.2	41.98	1.83	27.28	0.60	10.49
10	...	...	...	17.4	27.3	38.1	48.5	59.3	...	...	...	38.12	1.93	30.66	0.26	10.45
13	2.0	12.4	23.0	44.8	55.2	5.4	16.5	27.5	48.8	59.1	10.0	5.88	1.90	2.92	-0.01	10.69
15	...	...	...	44.3	54.7	5.7	16.6	26.8	...	...	...	5.62	1.71	3.02	+0.19	10.54
Feb. 4	52.7	4.1	14.5	36.2	46.7	57.5	8.1	19.0	40.4	51.4	2.1	57.52	2.19	8.71	+2.19	10.61
β URSÆ MINORIS L. C.* $a_0 = 14^h 51^m 6^s.06$																
Dec. 18	...	...	...	...	...	...	...	...	23.7	31.4	39.1	52.45	-1.22	+11.48	+3.43	51 6.14
29	57.8	5.7	13.3	28.7	36.9	44.5	52.4	0.2	15.9	23.4	31.2	44.55	1.56	20.54	2.74	6.27
Jan. 1	54.9	2.7	10.5	26.2	32.7	41.4	49.7	57.3	12.6	20.5	27.8	41.48	1.39	23.47	2.26	5.82
10	...	...	...	...	...	...	42.9	50.7	6.5	13.7	22.0	35.06	1.38	30.66	1.56	5.90
23	14.0	22.0	29.8	45.7	53.8	1.0	9.1	17.2	32.7	39.8	48.1	1.20	1.26	5.40	0.45	5.79
24	14.7	22.4	30.0	45.6	53.3	59.3	9.1	17.0	32.4	40.0	48.0	1.07	1.19	5.48	+0.36	5.90
Feb. 14	11.0	18.6	26.1	41.7	50.2	57.6	5.1	12.8	28.7	36.2	44.3	57.48	1.00	11.32	-1.05	(6.50)
α CETI.* $a_0 = 2^h 55^m 35^s.38$																
Dec. 9	18.3	20.4	22.5	26.5	28.7	30.7	32.8	34.8	38.8	41.0	43.1	30.69	+0.01	+ 4.56	+0.18	55 35.44
18	11.4	13.3	15.6	19.6	21.7	23.7	25.8	27.8	31.9	33.9	36.1	23.71	0.01	11.48	0.20	35.40
29	2.3	4.3	6.4	10.5	12.6	14.7	16.6	18.7	22.9	25.0	27.0	14.64	0.01	20.55	0.23	35.48
Jan. 1	59.3	1.3	3.3	7.5	9.6	11.6	13.7	15.8	19.8	22.0	24.0	11.63	0.01	23.48	0.26	35.38
5	56.0	58.0	0.1	4.2	6.3	8.4	10.5	12.5	16.7	18.6	20.7	8.36	0.01	26.73	0.29	35.39
6	55.4	57.5	59.6	3.6	5.6	7.8	9.9	12.0	16.0	18.1	20.1	7.78	0.01	27.29	0.30	35.38
10	52.2	54.0	56.2	0.1	2.2	4.5	6.6	8.5	12.6	14.7	16.7	4.39	0.01	30.67	0.34	35.41
23	17.2	19.2	21.3	25.5	27.5	29.5	31.5	33.6	37.7	39.7	41.8	29.50	0.01	5.40	0.49	35.40
Feb. 4	13.6	15.6	17.8	22.0	23.9	26.0	28.1	30.2	34.2	36.3	38.4	26.01	0.01	8.71	0.66	35.39
14	10.8	12.9	14.9	19.1	21.1	23.2	25.3	27.3	31.5	33.6	35.6	23.21	0.00	11.32	0.80	35.33
22	9.1	11.2	13.2	17.3	19.3	21.4	23.5	25.6	29.8	31.8	33.8	21.45	0.01	12.98	0.92	35.36
ρ PERSEI.* $a_0 = 2^h 56^m 58^s.82$																
Dec. 9	38.1	40.8	43.3	48.5	51.2	53.8	56.4	59.0	4.3	6.8	9.5	53.79	+0.26	+ 4.56	+0.18	56 58.79
Jan. 1	19.0	21.5	24.2	29.4	32.0	34.7	37.3	40.0	45.3	47.8	50.4	34.69	0.29	23.48	0.30	58.76
10	...	...	...	...	...	27.4	30.0	32.6	37.9	40.5	43.2	27.37	0.29	30.67	0.42	58.75
13	39.4	42.0	44.6	49.9	52.6	55.2	57.7	0.3	5.5	8.3	10.8	55.12	0.29	2.92	0.46	58.79
23	36.8	39.3	42.2	47.3	50.0	52.6	55.1	57.8	3.0	5.7	8.3	52.55	0.26	5.40	0.61	58.82
24	36.8	39.3	42.0	47.1	49.7	52.4	55.0	57.7	2.8	5.5	8.1	52.40	0.25	5.48	0.63	58.76
Feb. 12	30.6	33.3	36.0	41.2	43.8	46.4	49.0	51.6	57.0	59.5	2.1	46.41	0.25	11.16	0.00	58.82
14	30.5	33.1	35.7	41.0	43.5	46.3	48.9	51.5	56.7	59.3	1.9	46.22	0.21	11.32	1.05	58.80
β PERSEI.* $a_0 = 2^h 59^m 50^s.80$																
Dec. 1	34.8	37.5	40.3	45.6	48.3	50.9	53.7	56.4	1.7	4.5	7.2	50.99	+0.31	- 0.66	+0.16	59 50.80
9	28.6	32.3	35.0	41.4	43.2	45.9	48.5	51.3	56.6	59.3	2.0	45.83	0.28	+ 4.56	0.16	50.83
18	22.7	25.4	28.0	33.4	36.0	38.8	41.5	44.1	49.6	52.3	55.0	38.80	0.28	11.48	0.19	50.75
29	13.3	16.1	18.8	24.1	26.7	29.7	32.4	35.0	40.5	43.2	45.8	29.60	0.36	20.55	0.25	50.76
Jan. 1	10.6	13.1	16.0	21.3	24.0	26.7	29.4	32.1	37.5	40.2	43.0	26.72	0.32	23.48	0.28	50.80
5	7.1	9.8	12.6	18.0	20.7	23.4	26.1	28.8	34.1	36.9	39.6	23.37	0.31	26.73	0.33	50.74

Date. 1871-2.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.							
			E.	G.															
47 H. CEPHEI.* $\delta_0 = + 78^\circ 54' 31''.7$																			
Dec. 9	m. 48	s. 32.3	25	4	6.6	31.3	29	48.95	29	57.77	52	50.58	+0	46.27	+1.06	+62.24	-6.56	54	33.6
17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
18	47	39.8	25	4	42.3	21.3	29	31.80	29	52.29	52	56.06	0	44.28	0.16	61.98	9.16	...	33.3
Jan. 5	47	13.9	25	4	37.2	14.2	29	25.70	29	48.53	52	59.82	0	44.04	0.10	61.75	13.40	...	32.3
6	47	8.9	25	4	36.1	15.0	29	25.55	29	49.55	52	58.80	0	44.71	0.02	61.73	13.50	...	31.8
10	47	7.2	25	4	35.0	13.2	29	24.10	29	47.53	53	0.82	0	44.63	0.06	62.76	14.10	...	34.2
13	47	38.7	25	4	32.9	12.4	29	22.65	29	45.12	53	3.23	0	43.57	0.13	60.73	14.50	...	33.2
15	48	36.5	25	4	56.0	30.2	29	43.10	29	50.61	53	57.74	0	46.11	0.76	63.34	14.70	...	33.2
Feb. 4	48	30.5	30	0	5.1	27.7	29	46.40	29	24.41	53	23.94	0	45.00	0.01	42.34	16.20	...	35.1
β URSÆ MINORIS L. C.* $\delta_0 = + 105^\circ 19' 17''.9$																			
Dec. 18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
29	49	46.4	5	1	59.4	33.8	6	46.60	6	26.06	16	22.29	+2	0.07	+2.30	+62.38	-12.14	19	14.9
Jan. 1	49	23.3	5	2	2.0	38.0	6	50.00	6	22.35	16	26.00	1	58.78	2.69	63.09	12.90	...	17.7
10	51	29.4	5	1	12.6	48.7	6	0.65	6	19.85	16	28.50	1	57.47	2.39	62.76	15.10	...	16.0
23	50	9.9	5	1	45.1	9.0	6	27.05	6	8.91	16	39.44	1	57.01	2.25	57.25	17.20	...	18.7
24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Feb. 14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
α CETI.* $\delta_0 = + 3^\circ 35' 8''.9$																			
Dec. 9	55	10.3	45	2	31.3	19.9	47	25.60	47	52.86	34	55.49	-0	50.21	-1.61	+62.24	+2.74	35	8.6
18	55	10.1	45	2	41.0	30.4	47	35.70	47	53.87	34	54.48	0	48.05	1.84	61.98	3.44	...	10.0
29	54	55.9	45	2	34.6	19.2	47	26.90	47	52.02	34	56.33	0	49.49	1.85	62.38	4.34	...	11.7
Jan. 1	54	53.0	45	2	36.2	23.2	47	29.70	47	54.55	34	53.80	0	48.97	1.86	63.09	4.50	...	10.6
5	54	50.9	45	2	38.0	26.2	47	32.10	47	55.48	34	52.87	0	47.80	1.77	61.75	4.80	...	9.8
6	54	48.9	45	2	33.8	22.7	47	28.25	47	53.50	34	54.85	0	48.51	1.77	61.73	4.80	...	11.1
10	54	50.2	45	2	40.3	29.1	47	34.70	47	53.67	34	54.68	0	48.43	1.79	62.76	5.00	...	12.2
23	55	13.9	45	2	39.6	15.2	47	27.40	47	48.24	35	0.11	0	48.23	1.82	57.25	5.80	...	13.1
Feb. 4	55	7.1	45	3	13.4	46.1	47	59.75	47	34.99	35	13.36	0	48.84	1.90	42.34	6.40	...	11.4
14	55	14.0	45	2	57.0	36.4	47	46.70	47	34.65	35	13.70	0	48.24	1.85	41.76	6.80	...	12.2
22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
ρ PERSEI.* $\delta_0 = + 38^\circ 20' 32''.7$																			
Dec. 9	56	37.6	0	3	1.7	44.9	2	53.30	3	10.31	19	38.04	-0	4.41	-0.36	+62.24	-3.23	20	32.3
Jan. 1	56	14.1	0	2	56.5	38.8	2	47.65	3	9.28	19	39.07	0	4.31	0.67	63.09	5.30	...	31.9
10	56	37.0	0	3	25.6	11.1	3	18.35	3	8.16	19	40.19	0	4.26	0.55	62.76	5.80	...	32.3
13	56	29.9	0	2	45.9	32.2	2	39.05	3	5.51	19	42.84	0	4.16	0.62	60.73	5.90	...	32.9
23	56	36.5	0	2	59.5	31.5	2	45.50	3	2.41	19	45.94	0	4.24	0.58	57.25	6.00	...	32.4
24	56	26.5	0	2	51.8	21.0	2	36.40	3	3.60	19	44.75	0	4.32	0.67	58.20	6.00	...	32.0
Feb. 12	56	20.3	0	3	26.1	59.3	3	12.70	2	45.83	20	2.52	0	4.19	0.76	42.37	5.80	...	34.1
14	56	17.1	0	3	28.7	3.3	3	16.00	2	46.04	20	2.31	0	4.24	0.82	41.76	5.90	...	33.1
β PERSEI.* $\delta_0 = + 40^\circ 27' 37''.8$																			
Dec. 1	59	22.1	55	0	50.9	32.2	55	41.55	56	10.98	26	37.37	-0	2.09	-0.34	+63.89	-2.40	27	36.4
9	59	14.8	55	0	43.9	28.7	55	36.30	56	7.87	26	40.48	0	2.10	0.36	62.24	3.50	...	36.8
18	59	11.4	55	0	47.3	31.5	55	39.40	56	7.31	26	41.04	0	2.01	0.36	61.98	4.60	...	36.0
29	59	3.7	55	0	47.0	30.2	55	38.60	56	4.98	26	43.37	0	2.07	0.35	62.38	5.60	...	37.7
Jan. 1	58	59.9	55	0	47.7	31.0	55	39.35	56	6.64	26	41.71	0	2.05	0.37	63.09	5.80	...	36.6
5	58	57.7	55	0	45.2	30.7	55	37.95	56	4.13	26	44.22	0	2.00	0.33	61.75	5.80	...	37.8

Date.		Right Ascension Wires.										Seconds of Transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
1871-2.		1	2	3	4	5	6	7	8	9	10	11					
β PERSEI.* $a_0 = 2^h 59^m 50^s.80$																	
Jan.	6	6.7	9.4	12.1	17.9	20.0	22.8	25.5	28.2	33.7	36.3	39.0	22.82	+0.30	+27.29	+0.34	59 50.75
	10	3.2	6.0	8.7	14.2	16.8	19.4	22.2	25.0	30.3	33.1	35.7	19.51	0.31	30.67	0.40	50.89
	12	31.1	33.8	36.6	41.9	44.6	47.2	50.1	52.7	58.1	0.8	3.6	47.33	0.32	2.69	0.43	50.77
	13	31.0	33.6	36.4	41.7	44.4	47.1	49.7	52.7	57.8	0.6	3.4	47.13	0.31	2.92	0.44	50.80
	23	28.4	31.0	33.7	39.2	41.9	44.5	47.3	50.0	55.3	58.0	0.8	44.55	0.29	5.40	0.61	50.85
48 H. CEPHEI.* $a_0 = 3^h 4^m 10^s.06$																	
Dec.	18	2.7	12.0	21.5	39.9	49.5	58.6	7.9	17.4	36.1	45.3	54.7	58.69	+1.48	+11.48	-1.73	4 9.92
	29	53.1	2.5	11.6	30.3	39.5	48.9	57.8	7.5	26.2	35.3	44.9	48.87	1.89	20.55	1.21	10.10
Jan.	1	50.0	59.0	8.6	27.1	36.4	46.0	55.0	4.3	23.4	32.4	41.7	45.81	1.69	23.48	1.02	9.96
	5	46.6	55.9	5.2	23.6	33.3	42.3	51.6	1.1	19.5	29.3	38.5	42.45	1.66	26.73	0.77	10.07
	6	45.6	55.0	4.4	23.1	32.5	41.9	51.2	0.2	18.6	28.6	37.6	41.70	1.59	27.29	0.70	9.88
	10	42.0	51.5	0.7	19.4	28.8	38.4	47.5	56.7	15.0	24.8	33.9	38.06	1.67	30.67	0.43	9.97
	13	9.5	19.0	28.5	47.2	56.4	5.7	14.8	24.6	42.9	52.4	1.7	5.70	1.64	2.92	-0.21	10.05
Feb.	4	1.9	11.1	20.3	39.2	48.5	57.6	7.1	16.4	35.2	44.4	54.0	57.79	1.90	8.71	+1.63	10.03
δ ARIETIS.* $a_0 = 3^h 4^m 18^s.78$																	
Jan.	23	59.6	1.9	4.1	8.4	10.4	12.6	15.0	17.1	21.4	23.6	25.8	12.72	+0.11	+ 5.40	+0.51	4 18.74
	24	59.6	1.7	3.9	8.	10.4	12.7	14.9	17.0	21.3	23.5	25.8	12.65	0.10	5.48	0.52	18.75
Feb.	1	57.4	59.6	1.8	6.2	8.4	10.6	12.7	14.9	19.3	21.4	23.7	10.55	0.16	7.42	0.64	18.77
	14	53.5	55.5	57.7	2.1	4.3	6.6	8.5	11.0	15.2	17.4	19.6	6.49	0.09	11.32	0.84	18.74
12 ERIDANI. $a_0 = 3^h 6^m 38^s.04$																	
Jan.	24	18.4	20.8	23.2	28.0	30.2	32.7	35.0	37.5	42.1	44.5	46.9	32.66	-0.21	+ 5.48	+0.20	6 38.13
Feb.	1	4.7	7.1	9.5	14.2	16.6	18.9	21.4	23.8	28.5	31.0	33.4	19.01	0.31	7.42	0.34	(36.46)
	14	12.3	14.7	17.1	21.9	24.1	26.5	28.8	31.2	36.0	38.3	40.8	26.52	0.18	11.32	0.59	38.25
ζ ERIDANI. $a_0 = 3^h 9^m 37^s.13$																	
Jan.	5	57.7	59.8	1.8	6.0	8.1	10.2	12.3	14.5	18.5	20.6	22.8	10.21	-0.08	+26.74	+0.13	9 37.00
	6	57.1	59.2	1.3	5.5	7.6	9.8	11.7	13.9	18.0	20.2	22.3	9.69	0.08	27.29	0.15	37.05
	13	21.4	23.5	25.6	29.7	31.9	33.9	36.0	38.1	42.3	44.4	46.4	33.93	0.08	2.92	0.21	36.98
	15	...	...	...	29.8	31.9	34.0	35.8	37.9	...	...	...	33.88	0.07	3.02	0.24	37.07
	24	18.8	20.9	23.0	27.1	29.2	31.3	33.4	35.5	39.6	41.7	43.8	31.30	0.07	5.48	0.35	37.06
κ CETI. $a_0 = 3^h 12^m 38^s.89$																	
Dec.	18	15.0	17.0	19.1	23.1	25.3	27.4	29.4	31.5	35.5	37.6	39.6	27.32	+0.00	+11.49	+0.12	12 38.93
	27	7.8	9.9	12.0	16.0	18.1	20.1	22.3	24.3	28.4	30.5	32.5	20.17	0.00	18.70	0.15	39.02
	29	5.9	8.0	10.0	14.2	16.3	18.3	20.4	22.3	26.5	28.6	30.7	18.29	0.01	20.57	0.15	39.02
Jan.	5	59.7	1.7	3.8	7.9	10.1	12.1	14.1	16.0	20.2	22.3	24.4	12.03	0.00	26.74	0.21	38.98
	6	59.0	1.1	3.2	7.4	9.4	11.5	13.5	15.6	19.6	21.7	23.8	11.44	0.00	27.29	0.22	38.95
	13	23.4	25.5	27.6	31.6	33.8	35.8	37.9	39.9	43.9	46.1	48.2	35.79	0.00	2.92	0.28	38.99
	15	23.5	25.3	27.5	31.6	33.7	35.8	37.7	39.8	43.9	46.0	47.9	35.70	0.00	3.02	0.30	39.02
	24	20.8	22.8	25.0	29.0	31.1	33.2	35.2	37.2	41.4	43.4	45.5	33.15	0.00	5.48	0.40	39.03
	30	19.8	21.9	24.0	28.1	30.1	32.1	34.3	36.3	40.4	42.4	44.6	32.18	0.01	6.39	0.48	39.06
Feb.	1	18.8	20.8	22.9	27.0	29.0	31.0	33.1	35.0	39.4	41.3	43.4	31.06	0.01	7.42	0.50	38.99
	4	17.3	19.5	21.5	25.5	27.5	29.7	31.8	33.9	38.0	40.1	42.2	29.73	0.01	8.71	0.55	39.00

Date. 1871-2.		Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.							
				E.	G.															
β PERSEI.* $\delta_0 = + 4^\circ 27' 37''.8$																				
Jan.	6	m. 58	s. 55.9	' 55	' 0	" 45.3	" 31.0	' 55	" 38.15	' 56	" 5.55	' 26	" 42.80	-0	2.03	-0.35	+61.73	-6.10	' 27	" 36.0
	10	58	53.6	55	0	45.8	31.6	55	38.70	56	5.08	26	43.27	0	2.02	0.33	62.76	6.40		37.3
	12	59	18.7	55	0	39.2	26.9	55	33.05	56	2.18	26	46.17	0	1.99	0.38	61.78	6.40		39.2
	13	59	21.8	55	0	44.7	30.0	55	37.35	56	3.12	26	45.23	0	1.98	0.32	60.73	6.50		37.2
	23	59	21.5	55	0	48.8	21.1	55	34.95	55	58.48	26	49.87	0	2.01	0.30	57.25	6.70		38.1
48 H. CEPHEI.* $\delta_0 = + 77^\circ 15' 37''.0$																				
Dec.	18	2	33.5	5	3	32.6	10.2	8	21.40	8	46.54	14	1.81	+0	41.66	+0.06	+61.98	-8.44	15	37.1
	29	2	22.6	5	3	32.2	7.6	8	19.90	8	45.36	14	2.99	0	42.91	0.02	62.38	11.24		37.1
Jan.	1	2	37.7	5	3	35.6	12.9	8	24.25	8	44.34	14	4.01	0	42.46	0.33	63.09	12.00		37.9
	5	2	23.0	5	3	29.5	7.4	8	18.45	8	41.88	14	6.47	0	41.45	0.23	61.75	12.80		37.1
	6	2	13.1	5	3	26.2	5.9	8	16.05	8	42.19	14	6.16	0	42.06	0.07	61.73	13.00		37.0
	10	2	34.9	5	3	33.7	13.0	8	23.35	8	42.00	14	6.35	0	41.99	0.52	62.76	13.80		37.8
	13	2	58.6	5	3	28.1	8.0	8	18.05	8	37.85	14	10.50	0	41.07	0.46	60.73	14.20		38.6
Feb.	4	2	35.0	5	3	59.8	23.3	8	41.55	8	17.60	14	30.75	0	42.36	0.07	42.34	16.20		39.3
δ ARIETIS.* $\delta_0 = + 19^\circ 14' 26''.9$																				
Jan.	23	3	50.6	5	3	37.0	13.1	8	25.05	8	52.98	13	55.37	-0	25.66	-1.45	+57.25	+0.20	14	25.7
	24	3	51.3	5	3	38.7	12.2	8	25.45	8	52.37	13	55.98	0	26.16	1.45	58.20	0.20		26.8
Feb.	1	3	49.0	5	4	17.3	50.6	9	3.95	8	37.31	14	11.04	0	27.02	1.54	42.78	0.40		25.7
	14	3	49.4	5	4	10.0	47.0	8	58.50	8	37.31	14	11.04	0	25.68	1.50	41.76	1.00		26.6
12 ERIDANI. $\delta_0 = - 29^\circ 29' 31''.5$																				
Jan.	24	6	14.2	50	0	18.7	54.3	50	6.50	50	28.05	27	39.70	-3	4.67	-2.18	+58.20	+15.72	29	32.6
Feb.	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	14	6	7.5	50	0	47.6	26.3	50	36.95	50	15.25	27	26.90	3	1.32	2.25	41.76	16.27		32.4
ζ ERIDANI. $\delta_0 = - 9^\circ 17' 48''.7$																				
Jan.	5	8	51.8	40	0	9.7	2.3	40	6.00	40	30.30	17	41.95	-1	15.05	-1.83	+61.75	+8.18	17	48.9
	6	8	58.0	40	0	18.2	11.0	40	14.60	40	30.06	17	41.71	1	16.15	1.86	61.73	8.28		49.7
	13	9	16.2	40	0	10.7	3.5	40	7.10	40	30.48	17	42.13	1	14.40	1.83	60.73	8.96		48.7
	15	9	40.3	40	0	42.2	30.8	40	36.50	40	28.05	17	39.70	1	18.53	1.91	63.34	9.13		47.7
	24	9	13.4	40	0	13.9	50.7	40	2.30	40	25.95	17	37.60	1	17.16	1.82	58.20	9.78		48.7
κ CETI. $\delta_0 = + 2^\circ 53' 57''.2$																				
Dec.	18	12	12.6	25	3	52.0	40.4	28	46.20	29	5.85	53	42.50	-0	49.27	-2.00	+61.98	+3.24	53	56.4
	27	11	57.0	25	3	41.3	26.3	28	33.80	29	4.82	53	43.53	0	50.63	2.01	62.88	3.94		57.7
	29	12	0.2	25	3	46.1	33.1	28	39.60	29	3.80	53	44.55	0	50.73	2.02	62.38	4.08		58.3
Jan.	5	11	53.6	25	3	47.2	35.3	28	41.25	29	5.85	53	42.50	0	49.01	1.92	61.75	4.56		57.9
	6	11	54.0	25	3	47.3	36.1	28	41.70	29	4.96	53	43.39	0	49.73	1.92	61.73	4.63		58.1
	13	12	18.3	25	3	47.4	38.3	28	42.85	29	6.25	53	42.10	0	48.59	1.92	60.73	5.09		57.4
	15	12	21.0	25	3	52.1	37.0	28	44.55	29	4.20	53	44.15	0	51.28	1.92	63.34	5.22		59.5
	24	12	14.4	25	3	50.1	23.7	28	36.90	29	2.03	53	46.32	0	50.39	2.00	58.20	5.72		57.8
	30	12	20.3	25	4	14.1	47.0	29	0.55	28	44.95	54	3.40	0	52.41	2.03	41.68	6.03		56.7
Feb.	1	12	9.1	25	4	29.8	3.1	29	16.45	28	47.61	54	0.74	0	52.08	2.08	42.78	6.11		55.5
	4	12	11.3	25	4	25.3	58.0	29	11.65	28	47.53	54	0.82	0	50.09	2.06	42.34	6.25		57.3

Date. 1871-2.	Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
	1	2	3	4	5	6	7	8	9	10	11						
<i>a</i> PERSEI.* $\alpha_0 = 3^h 15^m 11^s.70$																	
Dec. 18	40.9	44.0	47.0	53.3	56.5	59.8	2.9	6.0	12.4	15.5	18.7	59.73	+0.39	+11.49	+0.02	15	11.63
27	33.7	36.7	40.0	46.2	49.5	52.5	55.6	58.9	5.2	8.4	11.5	52.56	0.39	18.65	0.07		11.67
29	31.6	34.7	37.8	44.1	47.3	50.5	53.6	56.9	3.2	6.4	9.5	50.51	0.50	20.56	0.09		11.66
Jan. 1	28.7	31.7	34.9	41.3	44.5	47.6	50.8	53.9	0.2	3.4	6.5	47.59	0.44	23.49	0.12		11.64
5	...	...	...	37.8	40.8	44.1	47.4	50.6	...	...	...	44.14	0.44	26.74	0.18		11.50
13	48.9	52.1	55.3	1.7	4.7	7.9	11.0	14.3	20.5	23.7	26.9	7.91	0.43	2.92	0.29		11.55
15	48.9	52.0	55.2	1.3	4.7	7.8	11.0	14.2	20.4	23.6	26.8	7.81	0.39	3.02	0.34		11.56
24	46.2	49.5	52.6	58.9	2.1	5.3	8.3	11.5	17.9	21.0	24.1	5.22	0.38	5.48	0.52		11.60
30	45.0	48.3	51.3	57.6	0.9	4.0	7.2	10.3	16.6	20.0	23.2	4.04	0.49	6.39	0.67		11.59
Feb. 1	44.0	47.1	50.1	56.5	59.8	2.8	6.0	9.3	15.6	18.7	21.9	2.89	0.57	7.42	0.72		11.60
4	42.5	45.7	48.9	55.3	58.5	1.6	4.7	8.0	14.3	17.4	20.5	1.58	0.50	8.71	0.79		11.58
14	39.9	43.2	46.2	52.7	55.8	59.0	2.1	5.3	11.6	14.7	17.8	58.94	0.32	11.32	1.05		11.63
<i>o</i> TAURI.* $\alpha_0 = 3^h 17^m 55^s.62$																	
Dec. 18	31.5	33.5	35.6	39.8	41.8	43.9	45.9	48.1	52.2	54.3	56.5	43.92	+0.04	+11.49	+0.14	17	55.59
27	24.3	26.4	28.5	32.7	34.8	36.8	38.8	40.9	45.0	47.2	49.3	36.79	0.04	-18.65	0.15		55.63
29	22.4	24.4	26.5	30.8	32.7	34.9	37.0	39.0	43.2	45.3	47.3	34.86	0.05	20.56	0.14		55.61
Jan. 5	16.2	18.2	20.3	24.5	26.6	28.6	30.7	32.8	36.8	39.0	41.2	28.63	0.04	26.74	0.21		55.62
6	15.6	17.6	19.7	23.9	26.0	28.1	30.3	32.3	36.4	38.4	40.6	28.08	0.04	27.29	0.22		55.63
15	39.8	41.8	43.8	48.1	50.2	52.3	54.3	56.4	0.5	2.5	4.6	52.21	0.94	3.02	0.30		55.57
24	37.3	39.4	41.4	45.5	47.6	49.7	51.8	53.9	58.0	0.1	2.2	49.72	0.04	5.48	0.40		55.64
30	36.3	38.4	40.4	44.6	46.5	48.7	50.8	52.8	56.9	59.0	1.1	48.68	0.05	6.39	0.49		55.61
Feb. 4	33.8	36.0	38.0	42.3	44.2	46.4	48.5	50.5	54.6	56.7	58.8	46.35	0.05	8.72	0.56		55.68
14	31.1	33.3	35.3	39.4	41.6	43.6	45.8	47.8	51.9	54.0	56.1	43.63	0.03	11.32	0.71		55.69
ξ TAURI.* $\alpha_0 = 3^h 20^m 13^s.90$																	
Dec. 18	49.9	52.0	54.0	58.1	0.2	2.4	4.4	6.5	10.6	12.8	14.8	2.34	+0.04	+11.49	+0.14	20	14.01
27	42.7	44.8	46.8	50.9	53.0	55.1	57.2	59.3	3.4	5.8	7.6	55.15	0.04	18.65	0.15		13.99
29	40.8	42.7	45.0	49.1	51.1	53.2	55.2	57.4	1.5	3.7	5.8	53.23	0.05	20.56	0.16		14.00
Jan. 6	34.0	36.1	38.2	42.4	44.5	46.6	48.6	50.7	54.8	57.0	59.0	46.54	0.04	27.30	0.21		14.09
13	...	...	...	6.7	8.8	10.8	12.9	15.0	...	...	...	10.84	0.05	2.92	0.27		14.08
15	58.1	0.2	2.3	6.6	8.7	10.7	12.8	14.9	19.0	21.0	23.1	10.67	0.04	3.02	0.29		14.02
Feb. 4	52.2	54.3	56.4	0.5	2.6	4.7	6.8	8.9	13.1	15.3	17.3	4.74	0.05	8.72	0.55		14.06
γ URSÆ MINORIS L. C.* $\alpha_0 = 15^h 20^m 57^s.13$																	
Jan. 1	...	...	...	...	...	...	38.6	45.5	59.0	5.6	12.3	31.95	-1.20	+23.49	+2.69	21	56.93
24	11.0	17.7	24.3	37.7	44.3	51.5	58.1	5.0	18.0	24.8	31.6	51.27	1.02	5.48	+1.11		56.84
30	...	...	...	...	44.5	50.9	58.1	4.7	...	...	...	51.16	1.32	6.39	+0.63		56.86
Feb. 14	6.5	13.3	19.8	33.6	40.6	47.1	54.0	0.3	14.3	21.0	27.7	47.11	0.86	11.32	-0.54		57.03
22	6.2	12.9	19.3	33.0	39.8	46.6	53.1	59.9	13.6	20.5	26.9	46.53	1.20	12.98	-1.17		57.14
<i>f</i> TAURI.* $\alpha_0 = 3^h 23^m 48^s.52$																	
Jan. 6	8.3	10.4	12.5	16.7	18.9	21.0	23.0	25.1	29.4	31.5	33.6	20.95	+0.07	+27.30	+0.21	23	48.53
13	32.6	34.7	36.8	40.0	43.3	45.3	47.3	49.4	53.7	55.8	57.9	45.16	0.07	2.92	0.27		48.42
15	32.5	34.7	36.7	40.9	43.0	45.1	47.2	49.2	53.5	55.6	57.7	45.10	0.06	3.02	0.29		48.47
23	30.1	32.3	34.3	38.4	40.7	42.7	44.8	46.9	50.1	53.3	55.4	42.64	0.06	5.40	0.37		48.47
24	30.0	32.1	34.2	38.3	40.5	42.5	44.7	46.8	51.0	53.1	55.2	42.58	0.06	5.48	0.38		48.50
Feb. 4	26.6	28.6	30.8	35.0	37.1	39.2	41.2	43.4	47.6	49.6	51.8	39.17	0.08	8.72	0.54		48.51
14	23.8	25.9	28.0	32.1	34.3	36.5	38.6	40.7	44.9	47.0	49.1	36.45	0.05	11.32	0.68		48.50

Date. 1871-2.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
<i>a</i> PERSEI.* $\delta_0 = + 49^\circ 24' 11''.3$												
Dec. 18	14 29.5	55 4	24.1	6.0	59 15.05	59 41.36	23 6.99	+0 7.38	-0.53	+61.98	-5.75	24 10.1
27	14 30.1	55 4	31.0	10.5	59 20.75	59 40.35	23 8.00	0 7.58	0.47	62.88	7.05	10.9
29	14 29.9	55 4	32.1	10.0	59 21.05	59 38.99	23 9.36	0 7.60	0.47	62.38	7.25	11.6
Jan. 1	14 18.5	55 4	23.7	3.7	59 13.70	59 39.13	23 9.22	0 7.52	0.55	63.09	8.10	11.2
5	14 3.1	0 0	3.3	45.2	58 54.25	59 29.98	23 18.37	0 7.34	0.72	61.75	8.50	(18.2)
13	14 41.8	55 4	21.2	4.2	59 12.70	59 35.44	23 12.91	0 7.28	0.37	60.73	8.80	11.7
15	14 45.4	55 4	30.8	7.7	59 19.25	59 38.76	23 9.59	0 7.68	0.33	63.34	8.90	11.4
24	14 56.1	55 4	41.3	7.8	59 24.55	59 32.48	23 15.87	0 7.54	0.33	58.20	9.40	11.9
30	14 56.6	55 4	40.8	5.3	59 23.05	59 16.73	23 31.62	0 7.85	0.33	41.68	9.60	11.2
Feb. 1	14 38.1	55 4	55.8	22.0	59 38.90	59 17.72	23 30.63	0 7.80	0.50	42.78	9.60	11.1
4	14 32.9	0 0	58.7	23.0	59 40.85	59 16.34	23 32.01	0 7.50	0.57	42.34	9.60	11.7
14	14 27.3	55 4	58.3	28.7	59 43.50	59 16.51	23 31.84	0 7.41	0.60	41.76	9.40	11.0
<i>o</i> TAURI.* $\delta_0 = + 8^\circ 34' 35''.3$												
Dec. 18	17 27.2	45 3	19.3	8.2	48 13.75	48 35.85	34 12.50	-0 40.06	-1.77	+61.98	+1.95	34 34.6
27	17 19.9	45 3	20.1	1.9	48 11.00	48 33.37	34 14.98	0 41.18	1.80	62.88	2.45	37.3
29	17 13.3	45 3	13.0	58.9	48 5.95	48 34.54	34 13.81	0 41.25	1.79	62.38	2.55	35.7
Jan. 5	17 11.2	45 3	18.2	7.3	48 12.75	48 35.78	34 12.57	0 39.86	1.70	61.75	2.80	35.6
6	17 10.5	45 3	17.0	6.4	48 11.70	48 34.99	34 13.36	0 40.43	1.70	61.73	2.90	35.9
15	17 32.2	45 3	16.9	2.2	48 9.55	48 36.02	34 12.33	0 41.70	1.70	63.34	3.30	35.6
24	17 29.8	45 3	19.3	52.1	48 5.70	48 32.04	34 16.31	0 40.97	1.76	58.20	3.70	35.5
30	(17 46.0)	45 3	32.2	34.5	48 (33.35)	48 29.85	34 18.50	0 42.61	1.79	41.68	4.00	(19.8)
Feb. 4	17 27.8	45 3	54.2	26.2	48 40.20	48 16.19	34 32.16	0 40.73	1.83	42.34	4.20	36.1
14	17 21.8	45 3	55.6	31.3	48 43.45	48 15.16	34 33.19	0 40.27	1.84	41.76	4.60	37.4
ξ TAURI.* $\delta_0 = + 9^\circ 17' 3''.9$												
Dec. 18	19 38.7	5 0	42.0	30.0	5 36.00	6 7.18	16 41.17	-0 39.00	-1.42	+61.98	+1.85	17 4.5
27	19 33.9	5 0	44.9	31.0	5 37.95	6 5.96	16 42.39	0 40.08	1.41	62.88	2.21	6.0
29	19 33.3	5 0	48.3	34.4	5 41.35	6 7.64	16 40.71	0 41.05	1.43	62.38	2.31	2.9
Jan. 6	19 26.9	5 0	46.3	35.8	5 41.05	6 6.94	16 41.41	0 39.36	1.41	61.73	2.60	5.0
13	20 29.8	5 1	36.3	26.7	6 31.50	6 6.40	16 41.95	0 38.49	1.48	60.73	3.00	5.7
15	19 51.6	5 0	51.1	35.4	5 43.25	6 8.48	16 39.87	0 40.59	1.40	63.34	3.10	4.3
Feb. 4	19 45.4	5 1	28.3	59.4	6 13.85	5 48.86	16 59.49	0 39.65	1.48	42.34	3.90	4.6
γ URSÆ MINORIS L. C.* $\delta_0 = + 107^\circ 42' 37''.9$												
Jan. 1	22 21.9	40 2	8.3	43.4	42 55.85	43 16.22	39 32.13	-2 12.02	+2.28	+63.09	+12.00	42 37.5
24	21 29.5	40 3	11.3	31.2	42 51.25	43 6.81	39 41.54	2 12.50	2.01	58.20	17.50	36.7
30	21 16.8	40 3	23.6	42.5	43 3.05	42 52.82	39 55.53	2 17.84	1.86	41.68	18.40	38.5
Feb. 14	19 51.4	40 2	41.8	5.7	42 23.75	42 46.03	40 2.32	2 10.16	2.34	41.76	19.60	37.0
22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>f</i> TAURI.* $\delta_0 = + 12^\circ 29' 46''.3$												
Jan. 6	23 2.4	50 3	11.3	0.1	53 5.70	53 29.88	29 18.47	-0 34.72	-1.56	+61.73	+1.60	29 45.5
13	23 25.0	50 3	7.7	58.0	53 2.85	53 29.25	29 19.10	0 33.97	1.56	60.73	1.90	46.2
15	23 26.5	50 3	13.1	58.4	53 5.75	53 30.06	29 18.29	0 35.80	1.55	63.34	2.00	46.3
23	23 22.4	50 3	9.6	46.2	52 57.90	53 24.30	29 24.05	0 34.51	1.62	57.25	2.30	47.5
24	23 25.5	50 3	17.6	51.4	53 4.50	53 26.85	29 21.50	0 35.18	1.61	58.20	2.30	45.2
Feb. 4	23 22.5	50 3	46.8	20.0	53 33.40	53 12.00	29 36.35	0 34.98	1.67	42.34	2.70	44.7
14	23 17.7	50 3	45.5	23.6	53 34.55	53 10.59	29 37.76	0 34.57	1.67	41.76	3.10	46.4

Date.	Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
1871-2.	1	2	3	4	5	6	7	8	9	10	11					
ϵ ERIDANI.* $a_0 = 3^h 26^m 54^s.02$																
Dec. 27	23.0	25.0	27.1	31.2	33.3	35.5	37.5	39.6	43.9	46.0	48.1	35.47	-0.08	+18.65	-0.02	26 54.02
29	21.2	23.3	25.2	29.5	31.5	33.6	35.7	37.7	41.9	44.0	46.1	33.61	0.09	20.57	-0.02	54.07
Jan. 5	15.0	17.0	19.0	23.1	25.3	27.3	29.5	31.6	35.8	37.9	40.0	27.41	0.08	26.74	+0.05	54.12
6	14.3	16.4	18.4	22.6	24.7	26.7	28.8	31.0	35.1	37.2	39.4	26.78	0.08	27.30	0.06	54.06
13	38.6	40.6	42.8	46.9	49.0	51.1	53.3	55.3	59.4	1.5	3.6	51.10	0.08	2.92	0.12	54.06
24	36.0	38.0	40.1	44.3	46.3	48.4	50.5	52.6	56.7	58.8	1.0	48.43	0.07	5.48	0.25	54.09
30	35.0	37.0	39.1	43.2	45.3	47.5	49.5	51.5	55.7	57.9	0.1	47.44	0.09	6.39	0.34	54.08
Feb. 14	29.7	31.8	33.9	38.1	40.1	42.2	44.5	46.5	50.6	52.7	54.8	42.26	0.06	11.32	0.57	54.09
δ GROOMBRIDGE 716.* $a_0 = 3^h 31^m 4^s.02$																
Dec. 27	18.1	22.8	27.3	36.2	40.8	45.2	49.6	54.1	3.3	7.6	12.0	45.18	+0.65	+18.66	-0.34	31 4.15
29	15.9	20.4	25.0	34.0	38.3	43.0	47.5	52.0	1.0	5.4	10.0	42.96	0.83	20.57	0.33	4.03
Jan. 1	13.0	17.4	22.0	29.1	35.4	40.1	44.7	49.0	58.2	2.6	7.1	39.87	0.74	23.50	0.25	3.86
5	9.6	14.2	18.7	27.6	32.3	36.8	41.2	45.8	54.7	59.3	3.8	36.73	0.73	26.74	0.17	4.03
6	9.0	13.7	18.1	27.2	31.6	36.0	40.6	45.1	54.2	58.5	3.0	36.09	0.70	27.30	-0.14	3.95
13	33.4	36.7	42.3	51.2	56.0	0.4	4.8	9.4	18.4	22.8	27.4	0.26	0.72	2.92	+0.04	3.94
15	33.3	37.8	42.3	51.3	55.7	0.4	4.9	9.4	18.3	22.8	27.4	0.33	0.65	3.02	0.09	4.09
24	30.6	35.0	39.5	48.6	53.0	57.4	1.8	6.5	15.5	19.9	24.6	57.49	0.63	5.48	0.37	3.97
Feb. 14	24.1	28.6	33.2	42.0	46.5	50.8	55.3	0.0	9.0	13.5	18.1	51.01	0.53	11.32	1.15	4.01
δ PERSEI.* $a_0 = 3^h 33^m 49^s.13$																
Dec. 27	12.0	15.0	18.0	24.0	27.1	30.2	33.3	36.3	42.2	45.3	48.4	30.16	+0.36	+18.66	+0.00	33 49.18
Jan. 1	7.1	10.0	13.0	19.1	22.1	25.2	28.2	31.2	37.3	40.4	43.4	25.18	0.41	23.50	0.04	49.13
5	3.6	6.7	9.7	16.0	18.8	21.9	24.9	28.0	34.0	37.0	40.2	21.89	0.41	26.75	0.08	49.13
6	3.0	6.1	9.2	15.2	18.4	21.2	24.3	27.4	33.5	36.4	39.6	21.30	0.39	27.31	0.09	49.09
13	27.4	30.4	33.5	39.5	42.6	45.6	48.6	51.7	57.8	0.8	3.9	45.62	0.40	2.92	0.19	49.13
15	27.4	30.3	33.4	39.5	42.7	45.5	48.5	51.6	57.5	0.7	3.8	45.54	0.36	3.02	0.23	49.15
30	23.4	26.6	29.6	35.7	38.8	41.8	44.8	47.9	54.0	57.0	0.2	41.80	0.45	6.39	0.52	49.16
Feb. 1	22.3	25.5	28.4	34.7	37.6	40.6	43.6	46.7	52.8	55.8	58.8	40.62	0.53	7.43	0.57	49.15
4	21.0	24.1	27.1	33.3	36.2	39.3	42.4	45.5	51.4	54.6	57.6	39.32	0.46	8.72	0.63	49.13
δ ERIDANI. $a_0 = 3^h 37^m 7^s.02$																
Jan. 5	28.0	30.0	32.1	36.3	38.2	40.4	42.5	44.6	48.8	51.0	53.0	40.44	-0.09	+26.74	+0.00	37 7.09
13	51.7	53.7	55.8	0.0	2.1	4.0	6.3	8.4	12.5	14.6	17.7	4.26	0.08	2.92	0.06	7.16
15	51.6	53.7	55.7	59.9	1.9	4.1	6.2	8.2	12.4	14.5	16.6	4.07	0.08	3.02	0.08	7.09
30	48.0	50.0	51.9	56.4	58.6	0.6	2.6	4.7	9.0	11.0	13.0	0.53	0.09	6.39	0.26	7.09
Feb. 1	46.9	49.0	51.1	55.3	57.4	59.6	1.6	3.7	7.8	10.0	11.9	59.48	0.11	7.43	0.29	7.09
4	45.5	47.7	49.7	53.9	56.0	58.1	0.2	2.3	6.5	8.6	10.7	58.11	0.10	8.72	0.34	7.07
22	41.0	43.1	45.3	49.5	51.5	53.6	55.7	57.7	2.0	4.1	6.1	53.60	0.09	12.98	0.63	7.12
η TAURI.* $a_0 = 3^h 39^m 52^s.70$																
Jan. 5	12.1	14.4	16.8	21.0	23.3	25.6	27.8	30.0	34.7	36.8	39.2	25.61	+0.16	+26.75	+0.16	39 52.68
6	11.5	13.8	16.0	20.5	22.8	25.0	27.3	29.6	34.1	36.3	38.6	25.05	0.15	27.31	0.16	52.67
8	...	...	...	...	...	...	...	26.8	32.3	34.6	36.8	23.27	0.17	29.03	0.17	52.64
13	36.0	38.1	40.4	45.0	47.2	49.5	51.6	53.9	58.3	0.6	2.9	49.41	0.15	2.92	0.20	52.68
15	35.9	38.0	40.4	44.7	47.0	49.3	51.5	53.8	58.5	0.4	2.9	49.31	0.14	3.02	0.23	52.70
Feb. 1	31.3	33.5	35.7	40.1	42.4	44.6	46.8	49.1	53.6	55.9	58.3	44.66	0.20	7.43	0.45	52.74
4	29.9	32.0	34.4	38.9	41.1	43.3	45.6	47.7	52.3	54.6	56.9	43.34	0.18	8.72	0.50	52.74
22	25.4	27.6	29.8	34.3	36.5	38.9	41.1	43.2	47.7	50.0	52.2	38.79	0.16	12.98	0.80	52.73

Date. 1871-2.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
ε ERIDANI.* δ ₀ = - 9° 53' 35".6												
Dec. 27	m. 26 18.6	s. 15 0	' 54.2	" 44.8	' 15 49.50	" 16 11.79	' 53 23.44	" -1 19.38	" -2.37	" +62.88	" +6.70	' 53 35.6
29	26 10.9	15 0	48.6	38.2	15 43.40	16 13.33	53 24.98	1 19.51	2.34	62.38	6.80	37.6
Jan. 5	26 7.0	15 0	52.7	44.8	15 48.75	16 15.65	53 27.30	1 16.83	1.92	61.75	7.70	36.6
6	26 9.3	15 0	56.2	46.4	15 51.30	16 14.37	53 26.02	1 17.94	1.94	61.73	7.80	36.4
13	26 34.6	15 0	57.3	49.3	15 53.30	16 15.06	53 26.71	1 16.25	2.05	60.73	8.60	35.7
24	26 31.8	15 1	1.0	36.9	15 48.95	16 10.84	53 22.49	1 18.98	1.94	58.20	9.60	35.6
30	26 33.1	15 1	24.1	58.4	16 11.25	15 52.76	53 4.41	1 22.12	2.01	41.68	9.90	37.0
Feb. 14	26 19.3	15 1	34.3	14.9	16 24.60	15 54.87	53 6.52	1 17.60	2.00	41.76	10.60	33.8
GROOMBRIDGE 716.* δ ₀ = + 62° 47' 55".3												
Dec. 27	30 9.0	35 1	1.2	38.0	35 49.60	36 11.75	46 36.60	+0 22.92	+0.41	+62.88	-8.80	47 54.0
29	30 9.4	35 1	0.7	38.8	35 49.75	36 10.31	46 38.04	0 22.95	0.46	62.38	9.10	54.7
Jan. 1	30 35.2	35 1	17.1	56.6	36 6.85	36 9.73	46 38.62	0 22.72	0.65	63.09	9.60	55.5
5	29 50.1	35 0	49.0	29.8	35 39.40	36 7.91	46 40.44	0 22.18	0.24	61.75	10.30	54.3
6	30 0.1	35 0	55.7	35.2	35 45.45	36 7.48	46 40.87	0 22.50	0.44	61.73	10.50	55.0
13	30 23.2	35 0	51.3	33.0	35 42.15	36 4.85	46 43.50	0 22.03	0.42	60.73	11.60	55.1
15	30 21.7	35 0	56.2	33.6	35 44.90	36 8.52	46 39.83	0 23.20	0.39	63.34	11.90	54.9
24	30 8.6	35 0	50.6	15.2	35 32.90	36 2.82	46 45.53	0 22.80	0.21	58.20	12.90	53.8
Feb. 14	30 36.7	35 1	9.0	37.6	35 53.30	35 44.72	47 3.63	0 22.41	0.64	41.76	13.70	54.7
δ PERSEI.* δ ₀ = + 47° 22' 32".3												
Dec. 27	32 56.5	0 0	57.7	35.5	0 46.60	1 17.14	21 31.21	+0 5.38	-0.23	+62.88	-6.31	22 32.9
Jan. 1	32 56.8	0 1	0.6	41.4	0 51.00	1 16.74	21 31.61	0 5.34	-0.16	63.09	6.80	33.1
5	32 54.8	0 0	59.1	41.0	0 50.05	1 14.61	21 33.74	0 5.21	-0.09	61.75	7.30	33.3
6	33 14.3	0 1	17.8	0.2	1 9.00	1 15.35	21 33.00	0 5.28	+0.05	61.73	7.40	32.7
13	33 23.9	0 1	2.2	44.9	0 53.55	1 13.22	21 35.13	0 5.18	-0.03	60.73	8.10	32.9
15	33 24.8	0 1	8.5	46.1	0 57.30	1 16.06	21 32.29	0 5.45	-0.02	63.34	8.20	32.9
30	33 20.8	0 1	28.4	54.3	1 11.35	0 52.70	21 55.65	0 5.56	-0.08	41.68	9.20	33.6
Feb. 1	33 32.5	0 1	17.9	45.4	1 1.65	0 54.45	21 53.90	0 5.54	+0.04	42.78	9.20	33.1
4	33 13.0	0 1	34.3	0.9	1 17.60	0 54.23	21 54.12	0 5.33	-0.15	42.34	9.30	32.3
δ ERIDANI. δ ₀ = - 10° 11' 54".1												
Jan. 5	36 25.6	30 4	17.5	9.7	34 13.60	34 33.10	11 44.75	-1 17.72	-2.31	+61.75	+7.53	11 55.5
13	36 44.6	30 4	11.8	5.2	34 8.50	34 34.45	11 46.10	1 17.22	2.28	60.73	8.39	56.5
15	36 44.2	30 4	11.7	59.2	34 5.45	34 31.67	11 43.32	1 21.29	2.28	63.34	8.59	55.0
30	37 11.7	30 4	8.3	45.0	33 56.65	34 11.11	11 22.76	1 23.05	2.37	41.68	9.80	56.7
Feb. 1	36 48.0	30 4	38.4	14.5	34 26.45	34 11.60	11 22.25	1 22.66	2.43	42.78	9.92	54.6
4	36 39.3	30 4	51.0	28.0	34 39.50	34 15.22	11 26.87	1 19.44	2.45	42.34	10.08	56.3
22	36 35.8	30 4	37.9	6.6	34 22.25	33 59.26	11 10.91	1 18.22	2.14	24.14	10.57	56.6
η TAURI.* δ ₀ = + 23° 42' 25".9												
Jan. 5	39 5.2	40 0	43.4	28.9	40 36.15	41 1.16	41 47.19	-0 20.15	-0.91	+61.75	-1.50	42 26.4
6	39 4.7	40 0	43.2	28.1	40 35.65	41 0.53	41 47.82	0 20.43	0.93	61.73	1.50	26.7
8	39 38.4	40 1	31.0	11.1	41 21.05	41 2.54	41 45.81	0 21.06	0.95	64.06	1.60	26.3
13	39 29.4	40 0	42.8	28.3	40 35.55	41 0.07	41 48.28	0 20.03	0.91	60.73	1.60	26.5
15	39 26.9	40 0	44.8	26.0	40 35.40	41 2.86	41 45.49	0 21.06	0.93	63.34	1.60	25.2
Feb. 1	39 25.2	40 1	21.0	50.1	41 5.55	40 42.12	42 6.23	0 21.43	0.98	42.78	1.50	25.1
4	39 25.2	40 1	18.3	49.8	41 4.05	40 42.30	42 6.05	0 20.59	0.97	42.34	1.40	25.4
22	39 22.8	40 0	57.4	29.0	40 43.20	40 23.98	42 24.37	0 20.27	0.86	24.14	0.90	26.5

Date.	Right Ascension Wires.											Seconds of Transit over Mean Wire.	$n \tan \delta$ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
1871-2.	1	2	3	4	5	6	7	8	9	10	11					
ζ ERIDANI. $a_0 = 3^h 42^m 9^s.39$																
Jan. 5	...	...	...	38.5	40.8	43.2	45.3	47.6	...	...	...	43.08	-0.19	+26.75	-0.20	42 9.44
6	29.1	31.4	33.5	38.0	40.2	42.6	44.9	47.0	51.5	54.0	56.1	42.57	0.19	27.31	0.19	9.50
8	27.4	29.6	31.8	36.2	38.6	40.7	43.0	45.4	49.9	52.1	54.3	40.82	0.21	29.03	0.17	9.47
13	53.4	55.6	57.9	2.3	4.5	6.7	8.9	11.3	15.7	18.1	20.4	6.80	0.19	2.92	-0.11	9.42
30	49.5	51.9	54.2	58.8	1.0	3.3	5.5	7.8	12.3	14.6	16.8	3.25	0.21	6.39	+0.12	9.55
PI. III. 183 seq. $a_0 = 3^h 43^m 52^s.54$																
Jan. 8	...	...	...	19.3	21.7	24.3	27.0	29.4	...	...	...	24.34	-0.35	+29.03	-0.45	43 52.57
30	30.8	33.6	36.4	41.5	44.1	46.8	49.2	51.8	57.1	59.7	2.1	46.64	0.36	6.39	0.05	52.62
Feb. 1	30.0	32.6	35.1	40.4	43.1	45.8	48.4	50.9	55.9	58.6	1.2	45.64	0.41	7.43	0.01	52.65
1	30.0	32.6	35.1	40.4	43.1	45.8	48.4	50.9	55.9	58.6	1.2	45.64	0.41	7.43	0.01	52.65
9 H. CAMELOPARDI.* $a_0 = 3^h 46^m 14^s.35$																
Jan. 8	19.6	23.8	27.8	36.1	40.4	44.9	49.0	53.2	1.5	5.8	10.1	44.74	+0.72	+29.04	-0.15	46 14.35
13	45.6	50.0	54.0	2.3	6.6	10.8	15.0	19.1	27.6	31.8	36.0	10.80	0.66	2.92	0.07	14.31
15	45.5	49.8	54.1	2.4	6.4	10.7	14.9	19.1	27.7	31.8	36.3	10.79	0.59	3.02	-0.03	14.37
30	41.5	45.8	49.8	58.3	2.5	6.5	10.9	15.0	23.6	27.7	32.0	6.69	0.75	6.39	+0.41	14.24
Feb. 1	40.0	44.3	48.5	57.3	1.3	5.6	9.8	13.8	22.3	26.6	30.7	5.47	0.87	7.44	0.48	14.26
22	34.1	38.5	43.0	51.3	55.3	59.3	3.8	7.7	16.4	20.7	25.0	59.56	0.68	12.98	1.22	14.44
ζ PERSEI.* $a_0 = 3^h 46^m 5^s.40$																
Jan. 6	23.3	25.7	28.1	32.8	35.2	37.7	40.1	42.6	47.2	49.8	52.2	37.70	+0.21	+27.32	+0.13	46 5.36
Feb. 4	41.4	43.9	46.2	51.1	53.5	55.9	58.3	0.7	5.6	8.1	10.5	55.93	0.25	8.73	0.51	5.42
ζ URSÆ MINORIS L. C.* $a_0 = 15^h 48^m 40^s.40$																
Jan. 5	12.2	22.0	32.1	52.3	2.6	11.8	22.5	32.7	52.3	2.4	12.9	12.35	-1.80	+26.76	+3.63	48 40.94
15	...	...	...	16.3	26.3	36.3	45.8	56.5	...	...	...	36.24	1.60	3.02	2.78	40.44
30	34.1	44.4	54.6	15.7	25.0	35.3	45.7	56.8	15.6	25.6	35.8	35.33	2.01	6.39	1.30	41.01
Feb. 1	...	...	55.0	14.8	...	34.2	44.7	55.4	15.0	25.5	35.2	34.89	2.34	7.44	+1.09	41.08
18	...	...	...	11.1	21.4	31.4	41.7	51.6	...	...	...	31.44	1.92	11.99	-0.84	40.67
22	...	...	...	10.2	20.6	31.0	40.4	50.7	...	...	...	30.58	1.84	12.98	-1.28	40.44
ϵ PERSEI.* $a_0 = 3^h 49^m 16^s.04$																
Jan. 6	32.5	35.1	37.8	43.0	45.8	48.3	50.9	53.7	58.9	1.7	4.6	48.39	+0.29	+27.32	+0.07	49 16.07
8	30.7	33.3	35.9	41.4	44.0	46.7	49.3	52.1	57.3	0.1	2.9	46.70	0.33	29.04	0.09	16.16
13	56.8	59.4	2.2	7.4	10.1	12.9	15.5	18.2	23.5	26.1	28.8	12.81	0.30	2.92	0.13	16.16
Feb. 4	50.6	53.1	56.0	1.2	3.8	6.6	9.1	11.8	17.2	19.9	22.6	6.54	0.35	8.73	0.48	16.10
γ ERIDANI. $a_0 = 3^h 52^m 3^s.47$																
Dec. 27	32.4	34.7	36.7	41.0	43.0	45.2	47.2	49.3	53.6	55.7	57.8	45.15	-0.10	+18.67	-0.17	52 3.55
Jan. 6	23.9	26.0	28.0	32.2	34.4	36.3	38.7	40.7	44.9	47.1	49.2	36.49	0.11	27.32	0.10	3.60
8	22.2	24.3	26.2	30.6	32.6	34.7	36.8	38.8	43.2	45.3	47.5	34.75	0.12	29.04	0.09	3.58
13	48.1	50.2	52.3	56.5	58.7	0.7	2.8	5.0	9.3	11.3	13.4	0.75	0.11	2.92	0.05	3.51
15	47.9	50.2	52.3	56.4	58.6	0.7	2.7	5.0	9.1	11.3	13.4	0.69	0.10	3.02	-0.03	3.58
Feb. 22	37.3	39.4	41.4	45.8	48.1	50.1	52.1	54.2	58.4	0.8	2.8	50.04	0.12	12.98	+0.62	3.52
26	37.2	39.4	41.5	45.7	47.8	50.0	52.1	54.2	58.4	0.5	2.6	49.95	0.11	13.04	+0.73	3.61

Date. 1871-2.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.	
			E.	G.									
τ^7 ERIDANI. $\delta_0 = -24^\circ 16' 18''.3$													
Jan.	5	m. s.	' "	' "	' "	' "	' "	' "	' "	' "	' "	' "	
	5	41 54.0	35 3	20.0	11.3	38 15.65	38 2.35	15 14.00	-2 17.13	-2.50	+61.75	+10.74	16 21.1
	6	41 26.7	35 2	46.2	39.6	37 42.90	38 2.30	15 13.95	2 19.07	2.42	61.73	10.89	21.8
	8	41 30.8	35 2	54.9	41.3	37 48.10	38 0.30	15 11.95	2 23.35	2.46	64.06	11.20	22.5
	13	41 59.5	35 3	0.8	52.9	37 56.85	38 5.76	15 17.41	2 16.30	2.47	60.73	11.92	23.5
	30	41 41.6	35 3	16.0	51.4	38 3.70	37 37.86	15 49.51	2 26.53	2.47	41.68	13.73	23.1
Pr. III. 183 seq. $\delta_0 = -38^\circ 0' 43''.7$													
Jan.	8	43 28.4	15 4	7.8	52.1	18 59.95	18 55.63	56 7.28	-5 52.35	-2.78	+64.06	+14.07	0 44.3
	30	43 31.7	15 4	7.8	41.7	18 54.75	18 39.34	55 50.99	6 0.40	2.80	41.68	16.84	(55.7)
Feb.	1	43 24.2	15 4	19.8	54.5	19 7.15	18 37.47	55 49.12	5 58.82	2.65	42.78	16.98	50.8
	1	43 16.6	15 4	19.8	54.5	19 7.15	18 45.02	55 56.67	5 58.82	2.65	42.78	16.98	(58.4)
9 H. CAMELOPARDI.* $\delta_0 = +60^\circ 43' 51''.4$													
Jan.	8	45 3.2	35 4	58.0	33.0	39 45.50	40 12.66	42 35.69	+0 20.68	-0.18	+64.06	-10.10	43 50.1
	13	45 32.9	35 4	51.3	32.8	39 42.05	40 6.85	42 41.50	0 19.68	0.13	60.73	10.90	50.9
	15	45 37.2	40 0	2.2	38.3	39 50.25	40 12.24	42 36.11	0 20.68	0.05	63.34	11.20	48.9
	30	45 57.1	40 0	13.9	37.7	39 55.80	39 49.64	42 58.71	0 21.13	+0.08	41.68	12.70	48.9
Feb.	1	45 35.1	40 0	25.5	51.0	40 8.25	39 48.75	42 59.60	0 21.05	0.53	42.78	12.90	51.1
	22	45 26.1	40 0	9.2	34.3	39 51.75	39 30.26	43 18.09	0 19.90	0.14	24.14	13.30	49.0
ζ PERSEI.* $\delta_0 = +31^\circ 30' 3''.9$													
Jan.	6	45 17.3	50 3	13.2	58.0	53 5.60	53 28.89	29 19.46	-0 11.62	-0.87	+61.73	-3.60	30 5.1
Feb.	4	45 34.2	50 3	48.2	18.9	53 33.55	53 9.27	29 39.08	0 11.71	1.01	42.34	4.20	4.5
ζ URSÆ MINORIS L. C.* $\delta_0 = +101^\circ 48' 46''.7$													
Jan.	5	47 5.1	35 2	6.2	42.2	36 54.20	36 35.78	46 12.57	+1 40.66	+2.46	+61.75	-12.50	48 44.9
	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	30	49 18.1	35 1	45.5	3.8	36 24.65	36 13.15	46 35.20	1 47.51	2.09	41.68	18.30	48.2
Feb.	1	48 27.9	35 1	32.4	54.0	36 13.20	36 15.08	46 32.27	1 47.11	1.91	42.78	18.60	45.5
	18	49 3.8	35 1	33.8	59.3	36 16.55	36 7.84	46 40.51	1 42.19	2.09	45.03	20.20	49.6
	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
ϵ PERSEI.* $\delta_0 = +39^\circ 38' 14''.6$													
Jan.	6	48 27.0	45 0	12.3	56.9	45 4.60	45 26.66	37 21.69	-0 2.90	-0.24	+61.73	-5.50	38 14.8
	8	48 54.8	45 0	48.1	26.3	45 37.20	45 28.85	37 19.50	0 2.99	0.21	64.03	5.70	14.6
	13	48 52.9	45 0	12.7	58.0	45 5.35	45 25.87	37 22.48	0 2.84	0.23	60.73	6.10	14.0
Feb.	4	48 42.9	45 0	46.0	15.2	45 30.60	45 6.75	37 41.60	0 2.92	0.32	42.34	7.00	13.7
γ ERIDANI. $\delta_0 = -13^\circ 52' 27''.6$													
Dec.	27	51 30.7	10 4	38.0	28.2	14 33.10	14 51.81	52 3.46	-1 31.96	-2.58	+62.88	+6.61	52 28.5
Jan.	6	52 2.7	15 0	30.1	23.2	15 26.65	14 52.60	52 4.25	1 30.25	1.92	61.73	8.01	26.7
	8	51 20.3	10 4	40.8	29.2	14 35.00	14 53.86	52 5.51	1 33.04	2.45	64.06	8.26	28.7
	13	51 41.9	10 4	33.7	27.8	14 30.75	14 55.31	52 6.96	1 28.57	2.41	60.73	8.88	28.3
	15	51 42.1	10 4	32.8	21.7	14 27.25	14 51.42	52 3.07	1 33.05	2.40	63.34	9.10	26.1
Feb.	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	26	51 36.7	10 4	44.8	26.1	14 35.45	14 18.63	51 30.28	1 32.30	2.27	25.33	11.43	28.1

Date.	Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
1871-2.	1	2	3	4	5	6	7	8	9	10	11					
λ TAURI.* $a_0 = 3^h 53^m 35^s.44$																
Dec. 27	4.1	6.2	8.2	12.4	14.5	16.6	18.7	20.9	25.0	27.2	29.3	16.65	+0.06	+18.67	+0.04	53 35.42
Jan. 5	56.0	58.0	0.2	4.4	6.5	8.6	10.7	12.8	17.0	19.0	21.2	8.58	0.07	26.76	0.07	35.48
8	...	...	...	2.0	4.2	6.2	8.4	10.5	...	...	...	6.26	0.07	29.04	0.08	35.45
12	20.1	22.2	24.2	28.5	30.5	32.6	34.8	36.9	41.1	43.2	45.3	32.67	0.07	2.70	0.11	35.55
Feb. 1	15.0	17.1	19.1	23.3	25.4	27.6	29.6	31.8	35.9	38.0	40.1	27.54	0.09	7.44	0.32	35.39
4	13.6	15.8	17.9	22.1	24.1	26.2	28.2	30.5	34.8	36.9	39.0	26.28	0.08	8.73	0.37	35.46
18	10.2	12.3	14.4	18.7	20.7	22.8	24.9	27.1	31.2	33.4	35.4	22.83	0.07	11.99	0.58	35.47
22	9.1	11.2	13.3	17.4	19.6	21.6	23.8	26.0	30.0	32.2	34.4	21.69	0.07	12.98	0.64	35.38
λ PERSEI. $a_0 = 3^h 57^m 3^s.40$																
Dec. 27	24.4	28.5	31.8	38.0	41.2	44.5	47.7	50.9	57.3	0.6	3.8	44.43	+0.39	+18.67	-0.15	57 3.34
Jan. 5	17.1	20.3	23.5	29.8	33.0	36.2	39.5	42.7	49.0	52.3	55.5	36.26	0.44	26.76	0.09	3.37
8	14.7	17.8	21.0	27.4	30.7	33.9	37.0	40.4	46.8	49.9	53.0	33.87	0.48	29.04	-0.05	3.34
13	40.8	44.0	47.3	53.6	56.8	0.0	3.1	6.4	12.8	16.0	19.2	0.00	0.44	2.92	+0.02	3.38
15	40.7	43.8	47.0	53.4	56.7	59.7	2.8	6.2	12.6	15.9	19.0	59.80	0.39	3.02	0.05	3.26
Feb. 1	35.7	39.1	42.3	48.6	51.8	54.9	58.1	1.3	7.9	11.0	14.2	54.99	0.58	7.44	0.38	3.39
4	34.4	37.7	41.0	47.3	50.5	53.6	56.9	0.1	6.6	9.7	12.9	53.70	0.50	8.73	0.45	3.38
18	30.9	34.1	37.4	43.7	47.0	50.2	53.4	56.6	2.9	6.2	9.4	50.16	0.47	11.99	0.81	3.43
22	29.8	33.0	36.2	42.6	45.9	49.0	52.2	55.4	1.8	5.0	8.3	49.02	0.45	12.98	0.92	3.37
c PERSEI.* $a_0 = 3^h 59^m 22^s.50$																
Dec. 27	45.6	48.6	51.6	57.6	0.6	3.6	6.6	9.8	15.8	18.9	21.8	3.68	+0.36	+18.67	-0.12	59 22.59
Jan. 5	37.4	40.3	43.4	49.4	52.5	55.4	58.5	1.5	7.6	10.7	13.7	55.49	0.40	26.76	0.05	22.60
8	...	...	...	47.0	50.1	53.0	56.1	59.2	...	...	...	53.08	0.43	29.04	-0.02	22.53
12	1.1	4.2	7.2	13.3	16.4	19.4	22.5	25.5	31.6	34.7	37.7	19.42	0.41	2.70	+0.03	22.56
13	1.0	4.0	7.0	13.2	16.2	19.1	22.2	25.3	31.4	34.4	37.5	19.21	0.40	2.92	0.04	22.57
15	0.9	3.9	6.9	13.0	16.0	19.1	22.1	25.2	31.1	34.4	37.4	19.09	0.36	3.02	0.09	22.56
30	57.1	0.2	3.3	9.2	12.1	15.4	18.5	21.5	27.6	30.6	33.8	15.39	0.45	6.39	0.32	22.55
31	56.5	59.6	2.6	8.6	11.7	14.8	17.8	20.9	26.9	29.8	33.0	14.75	0.53	6.90	0.34	22.52
Feb. 4	54.7	57.8	0.7	6.7	9.9	12.7	16.0	19.0	25.0	28.0	31.1	12.87	0.46	8.73	0.43	22.49
18	51.2	54.3	57.3	3.4	6.4	9.4	12.5	15.5	21.6	24.6	27.7	9.44	0.43	11.99	0.75	22.61
Pl. III. 249. $a_0 = 4^h 0^m 39^s.72$																
Jan. 30	...	...	...	28.8	30.9	33.0	35.3	37.3	...	...	...	33.06	+0.12	+ 6.39	+0.28	0 39.85
Feb. 1	18.9	21.0	23.2	27.7	29.8	32.0	34.1	36.2	40.5	42.6	44.8	31.89	0.14	7.44	0.30	39.77
22	13.1	15.3	17.4	21.6	23.8	26.0	28.1	30.3	34.6	36.9	38.9	26.00	0.11	12.98	0.62	39.71
p TAURI. $a_0 = 4^h 3^m 2^s.32$																
Dec. 27	29.7	32.0	34.2	38.8	41.1	43.5	45.7	48.0	52.6	54.8	57.1	43.41	+0.15	+18.67	+0.02	3 2.25
Jan. 5	21.6	24.0	26.3	30.8	33.0	35.3	37.6	40.0	44.4	46.8	49.1	35.35	0.17	26.76	0.05	2.33
13	45.4	47.6	50.0	54.5	56.8	59.0	1.3	3.6	8.2	10.5	12.9	59.07	0.17	2.92	0.10	2.26
15	45.4	47.6	50.0	54.6	56.8	59.0	1.3	3.7	8.3	10.6	12.9	59.11	0.15	3.02	0.12	2.40
30	41.7	44.1	46.3	51.0	53.2	55.5	57.8	0.1	4.7	6.9	9.3	55.51	0.20	6.39	0.29	2.39
31	41.2	43.5	45.8	50.4	52.6	54.9	57.2	59.4	4.0	6.4	8.7	54.92	0.23	6.90	0.30	2.35
Feb. 18	35.7	38.0	40.4	45.0	47.2	49.5	51.8	54.1	58.7	1.0	3.3	49.52	0.19	11.99	0.60	2.30
22	34.7	37.0	39.4	43.9	46.2	48.5	50.9	53.2	57.7	0.0	2.3	48.53	0.18	12.98	0.67	2.36

Date. 1871-2.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.	
			E.	G.									
λ TAURI.* $\delta_0 = + 12^\circ 7' 35''.4$													
Dec. 27	53 35.7	15	1	10.5	56.9	16	3.70	15	38.70	7	9.65	-0 35.93 -1.36 +62.88 +0.90	7 36.1
Jan. 5	52 46.5	15	0	17.8	6.8	15	12.30	15	41.23	7	7.12	0 34.78 1.25 61.75 1.30	34.1
8	53 17.6	15	1	4.1	48.0	15	56.05	15	41.26	7	7.09	0 36.35 1.30 64.06 1.40	34.9
12	53 18.9	15	0	26.0	15.2	15	20.60	15	38.66	7	9.69	0 34.58 1.24 61.78 1.50	37.1
Feb. 1	53 8.7	15	0	57.9	30.0	15	43.95	15	19.83	7	28.52	0 37.01 1.31 42.78 2.20	35.2
4	53 8.7	15	0	57.3	31.9	15	44.60	15	22.02	7	26.33	0 35.55 1.27 42.34 2.40	34.3
18	53 6.6	15	0	56.9	33.8	15	45.35	15	24.57	7	23.78	0 35.30 1.26 45.03 2.80	35.0
22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
λ PERSEI. $\delta_0 = + 50^\circ 0' 4''.6$													
Dec. 27	56 14.5	20	3	34.1	13.4	23	23.75	23	49.48	58	58.87	+0 8.25 -0.41 +62.88 -6.06	0 3.8
Jan. 5	56 7.6	20	3	31.4	13.0	23	22.20	23	46.90	59	1.45	0 7.99 0.29 61.75 7.37	3.5
8	56 2.6	20	3	34.0	10.2	23	22.10	23	48.97	58	59.38	0 8.35 0.32 64.06 7.76	3.7
13	56 28.0	20	3	26.2	8.8	23	17.50	23	45.03	59	3.32	0 7.95 0.32 60.73 8.38	3.3
15	56 31.0	20	3	33.8	11.8	23	22.80	23	47.58	59	0.77	0 8.35 0.29 63.34 8.59	3.6
Feb. 1	56 27.3	20	4	6.0	31.6	23	48.80	23	25.44	59	22.91	0 8.50 0.39 42.78 9.99	3.8
4	56 26.8	20	4	4.6	30.5	23	47.55	23	24.86	59	23.49	0 8.16 0.38 42.34 10.12	3.5
18	56 22.1	20	4	5.1	34.8	23	49.95	23	26.25	59	22.10	0 8.10 0.16 45.03 10.32	4.7
22	56 20.8	20	3	47.1	13.0	23	30.05	23	6.26	59	42.09	0 8.03 0.15 24.14 10.24	3.9
c PERSEI.* $\delta_0 = + 47^\circ 22' 4''.5$													
Dec. 27	58 35.5	0	1	29.8	10.1	1	19.95	1	45.52	21	2.83	+0 5.38 -0.19 +62.88 -5.67	22 5.2
Jan. 5	59 20.3	0	2	14.3	57.0	2	5.65	1	43.17	21	5.18	0 5.21 0.20 61.75 6.80	5.1
8	59 1.4	0	2	5.2	42.1	1	53.65	1	46.12	21	2.23	0 5.45 0.04 64.06 7.20	4.5
12	58 54.2	0	1	27.1	9.3	1	18.20	1	41.05	21	7.30	0 5.18 0.11 61.78 7.60	6.5
13	58 56.0	0	1	28.7	12.2	1	20.45	1	41.48	21	6.87	0 5.19 0.08 60.73 7.70	5.0
15	59 49.0	0	2	21.4	59.4	2	10.40	1	43.29	21	5.06	0 5.45 0.27 63.34 7.90	5.7
30	58 49.7	0	2	3.5	27.2	1	45.35	1	22.51	21	25.84	0 5.19 0.20 41.68 9.10	3.4
31	58 53.1	0	1	58.0	24.0	1	41.00	1	21.71	21	26.64	0 5.48 0.15 42.06 9.20	4.8
Feb. 4	58 49.4	0	2	0.0	25.3	1	42.65	1	21.76	21	26.59	0 5.33 0.16 42.34 9.40	4.7
18	58 45.2	0	1	59.3	30.0	1	44.65	1	23.14	21	25.21	0 5.29 0.08 45.03 9.50	6.0
Pr. III. 249. $\delta_0 = + 16^\circ 59' 44''.3$													
Jan. 30	0 47.8	20	3	10.5	42.6	22	56.55	23	14.99	59	33.36	-0 30.20 -1.43 +41.68 +0.46	59 43.9
Feb. 1	0 11.4	20	3	56.8	29.0	23	42.90	23	17.17	59	31.18	0 30.12 1.55 42.78 0.50	42.8
22	0 8.5	20	3	33.5	8.7	23	21.10	22	59.14	59	49.21	0 28.47 1.29 24.14 1.02	44.6
p TAURI. $\delta_0 = + 26^\circ 8' 41''.3$													
Dec. 27	2 19.6	10	4	28.2	12.0	14	20.10	14	48.70	7	59.65	-0 17.95 -1.38 +62.88 -1.88	8 41.3
Jan. 5	2 15.9	10	4	32.7	17.4	14	25.05	14	48.48	7	59.87	0 17.36 1.21 61.75 2.18	40.9
13	2 44.4	10	4	37.2	22.8	14	30.00	14	47.78	8	0.56	0 17.29 1.19 60.73 2.39	40.4
15	2 40.4	10	4	35.9	17.1	14	26.50	14	48.97	7	59.38	0 18.16 1.20 63.34 2.43	40.9
30	2 35.2	15	0	7.8	35.2	14	51.50	14	27.59	8	20.76	0 18.63 1.37 41.68 2.58	39.9
31	2 32.5	15	0	8.8	38.4	14	53.60	14	27.21	8	21.14	0 18.28 1.38 42.06 2.58	41.0
Feb. 18	2 30.4	15	0	7.2	39.9	14	53.55	14	31.05	8	17.30	0 17.63 1.06 45.03 2.36	41.3
22	2 27.3	10	4	48.9	21.0	14	34.95	14	9.98	7	38.37	0 17.48 1.06 24.14 2.29	41.7

Date.	Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
1871-2.	1	2	3	4	5	6	7	8	9	10	11					
o ¹ ERIDANI.* $a_0 = 4^h 5^m 37^s.12$																
Dec. 27	6.2	8.3	10.5	14.6	16.6	18.7	20.7	22.7	26.8	29.0	31.0	18.65	-0.06	+18.67	-0.14	5 37.12
Jan. 5	58.0	0.2	2.3	6.3	8.4	10.5	12.6	14.7	18.9	20.9	23.0	10.53	0.06	26.76	0.11	37.12
13	21.8	24.0	26.0	30.4	32.2	34.3	36.4	38.5	42.7	44.7	46.8	34.35	0.06	2.92	0.05	37.16
15	21.7	23.8	25.9	30.1	32.2	34.2	36.3	38.3	42.5	44.6	46.6	34.20	0.06	3.02	-0.04	37.12
31	17.7	19.8	21.8	26.2	28.3	30.2	32.3	34.3	38.5	40.6	42.7	30.22	0.08	6.90	+0.15	37.19
Feb. 4	15.8	17.8	20.0	24.1	26.2	28.2	30.2	32.3	36.6	38.6	40.8	28.24	0.07	8.73	0.21	37.11
18	12.3	14.4	16.4	20.7	22.7	24.8	26.9	29.0	33.1	35.2	37.3	24.80	0.07	11.99	0.42	37.14
22	11.2	13.3	15.3	19.6	21.6	23.8	25.8	27.8	31.9	34.0	36.1	23.67	0.06	12.98	0.48	37.07
o ² ERIDANI. $a_0 = 4^h 9^m 22^s.85$																
Dec. 27	52.0	54.1	56.1	0.2	2.3	4.4	6.4	8.5	12.7	14.7	16.8	4.38	-0.06	+18.67	-0.15	9 22.84
Jan. 5	43.9	46.0	48.1	52.1	54.3	56.3	58.5	0.5	4.6	6.8	8.9	56.36	0.07	26.76	0.12	22.93
8	41.6	43.5	45.7	49.8	52.0	54.0	56.1	58.2	2.3	4.4	6.5	54.01	0.07	29.04	0.11	22.87
15	7.6	9.7	11.9	16.0	18.0	20.0	22.0	24.2	28.3	30.4	32.6	20.06	0.07	3.02	-0.06	22.95
Feb. 4	1.5	3.6	5.7	9.9	11.9	14.0	16.0	18.1	22.4	24.5	26.5	14.01	0.08	8.73	+0.18	22.84
18	58.0	0.2	2.3	6.5	8.4	10.5	12.6	14.7	19.0	20.8	23.0	10.54	0.07	11.99	0.39	22.85
22	57.0	59.1	1.2	5.2	7.2	9.4	11.5	13.5	17.8	19.9	22.0	9.44	0.07	12.98	0.46	22.81
γ TAURI.* $a_0 = 4^h 12^m 30^s.64$																
Dec. 27	59.2	1.2	3.4	7.6	9.7	11.9	14.0	16.1	20.4	22.5	24.7	11.88	+0.08	+18.68	-0.01	12 30.63
Jan. 5	51.0	53.1	55.3	59.5	1.6	3.7	6.0	8.1	12.3	14.5	16.6	3.79	0.09	26.77	+0.01	30.66
8	48.8	50.9	52.9	57.2	59.4	1.6	3.6	5.7	10.0	12.2	14.3	1.51	0.10	29.05	0.02	30.68
12	15.0	17.1	19.3	23.6	25.7	27.8	29.8	32.0	36.2	38.4	40.6	27.77	0.09	2.70	0.04	30.60
15	14.8	16.9	19.1	23.3	25.4	27.5	29.7	31.6	36.0	38.2	40.3	27.53	0.08	3.02	0.05	30.68
31	10.7	12.8	15.0	19.1	21.3	23.5	25.6	27.7	31.8	34.0	36.3	23.44	0.12	6.90	0.21	30.67
Feb. 4	8.7	10.8	13.0	17.3	19.4	21.5	23.7	25.8	30.1	32.2	34.4	21.54	0.10	8.73	0.27	30.64
18	5.2	7.4	9.5	13.8	16.0	18.2	20.3	22.4	26.7	28.8	30.9	18.11	0.10	11.99	0.48	30.68
22	4.2	6.3	8.4	12.6	14.9	17.0	19.0	21.2	25.6	27.7	29.8	16.97	0.09	12.98	0.55	30.59
δ TAURI.* $a_0 = 4^h 15^m 33^s.24$																
Dec. 27	1.8	3.8	5.9	10.2	12.4	14.5	16.6	18.8	23.0	25.3	27.5	14.53	+0.09	+18.68	-0.01	15 33.29
Jan. 8	51.2	53.4	55.6	59.7	2.0	4.2	6.3	8.4	12.8	14.9	17.0	4.14	0.11	29.04	+0.01	33.30
12	17.5	19.6	21.8	26.2	28.3	30.5	32.6	34.7	39.0	41.2	43.5	30.44	0.11	2.70	0.03	33.28
15	17.3	19.4	21.6	25.7	28.0	30.1	32.2	34.5	38.8	40.9	43.0	30.14	0.09	3.02	0.05	33.30
30	13.6	15.8	18.0	22.3	24.5	26.7	28.8	30.8	35.2	37.4	39.6	26.61	0.13	6.34	0.19	33.27
31	13.1	15.3	17.5	21.7	24.0	26.1	28.3	30.4	34.6	36.8	39.0	26.07	0.14	6.90	0.20	33.31
Feb. 4	11.3	13.5	15.6	20.0	22.0	24.2	26.3	28.5	32.8	35.0	37.1	24.21	0.12	8.73	0.26	33.32
18	7.7	9.9	12.0	16.4	18.5	20.7	23.0	25.1	29.4	31.6	33.7	20.73	0.11	11.99	0.47	33.30
22	6.7	8.8	11.2	15.3	17.4	19.5	21.8	24.0	28.4	30.4	32.6	19.66	0.11	12.98	0.54	33.29
64 TAURI. $a_0 = 4^h 16^m 43^s.09$																
Dec. 27	11.5	13.6	15.8	20.0	22.1	24.4	26.7	28.6	33.0	35.1	37.2	24.36	+0.09	+18.68	-0.10	16 43.03
Jan. 8	1.0	3.1	5.3	9.6	11.8	13.9	16.0	18.1	22.5	24.6	26.8	13.88	0.11	29.04	+0.00	43.03
15	...	...	...	34.6	37.8	40.0	42.2	44.3	...	...	...	39.98	0.09	3.02	0.04	43.13
30	23.5	25.6	27.9	32.1	34.3	36.6	38.6	40.8	45.0	47.2	49.4	36.45	0.13	6.34	0.19	43.11
31	23.0	25.2	27.2	31.6	33.7	36.0	38.1	40.2	44.5	46.7	49.0	35.93	0.14	6.90	0.20	43.17
Feb. 4	...	...	...	29.7	31.9	34.0	36.0	38.2	...	...	...	33.96	0.12	8.73	0.26	43.07
18	17.6	19.8	22.0	26.2	28.5	30.6	32.7	34.9	39.2	41.4	43.5	30.58	0.11	11.99	0.47	43.15
22	16.4	18.7	20.8	25.4	27.3	29.5	31.5	33.8	38.1	40.3	42.6	29.49	0.11	12.98	0.54	43.12

Date. 1871-2.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean Reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
o ¹ ERIDANI.* $\delta_0 = -7^\circ 10' 24''.6$												
Dec. 27	m. 4 59.7	s. 30	' 2 46.3	" 35.2	' 32 40.75	" 33 5.85	' 10 17.50	" -1 12.19	" -2.15	+62.88	+4.80	' 10 24.2
Jan. 5	4 51.4	30	2 47.3	37.9	32 42.60	33 7.97	10 19.62	1 9.87	2.07	61.75	5.80	24.0
13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
15	5 18.3	30	2 52.4	37.1	32 44.75	33 5.87	10 17.52	1 13.03	2.07	63.34	6.70	22.6
31	5 12.5	30	3 22.3	58.0	33 10.15	32 47.10	9 58.75	1 13.53	2.18	42.06	8.30	24.1
Feb. 4	5 10.0	30	3 25.9	2.8	33 14.35	32 50.66	10 2.31	1 11.43	2.18	42.34	8.50	25.1
18	5 8.9	30	3 25.1	5.3	33 15.20	32 54.50	10 6.15	1 10.89	1.99	45.03	8.70	25.3
22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
o ² ERIDANI. $\delta_0 = -7^\circ 51' 13''.8$												
Dec. 27	9 18.2	10	4 17.1	6.3	14 11.70	13 53.40	51 5.05	-1 13.97	-2.39	+62.88	+4.69	51 13.8
Jan. 5	8 39.7	10	3 39.7	30.6	13 35.15	13 57.30	51 8.95	1 11.60	2.19	61.75	5.81	15.2
8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
15	9 1.0	10	3 35.2	22.4	13 28.80	13 54.13	51 5.78	1 14.82	2.18	63.34	6.15	13.5
Feb. 4	8 58.4	10	4 10.0	46.0	13 58.00	13 37.72	51 49.37	1 13.20	2.32	42.34	6.99	12.5
18	8 53.9	10	4 15.3	53.9	14 4.60	13 43.02	50 54.67	1 12.63	2.08	45.03	8.61	13.9
22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9.20	15.1
\gamma TAURI.* $\delta_0 = +15^\circ 18' 59''.1$												
Dec. 27	11 49.7	0	3 57.2	43.7	3 50.45	4 19.11	18 29.24	-0 31.50	-1.68	+62.88	+0.16	18 59.1
Jan. 5	11 42.6	0	4 0.0	48.0	3 54.00	4 21.37	18 26.98	0 30.49	1.56	61.75	0.30	57.0
8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
12	12 6.7	0	3 58.2	47.9	3 53.05	4 20.54	18 27.81	0 30.30	1.56	61.78	0.50	58.2
15	12 5.6	0	3 59.6	43.2	3 51.40	4 19.67	18 28.68	0 31.86	1.57	63.34	0.60	59.2
31	11 58.9	0	4 44.5	17.3	4 30.90	3 59.89	18 48.46	0 32.09	1.75	42.06	0.90	57.6
Feb. 4	12 1.8	0	4 39.2	13.0	4 26.10	4 1.17	18 47.18	0 31.17	1.69	42.34	1.00	57.7
18	11 57.9	0	4 42.2	19.0	4 30.60	4 5.04	18 43.31	0 30.93	1.43	45.03	1.30	57.3
22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
\delta TAURI.* $\delta_0 = +17^\circ 14' 24''.3$												
Dec. 27	14 55.6	5	3 41.6	27.0	8 34.00	8 58.16	13 50.19	-0 28.94	-1.55	+62.88	-0.20	14 22.4
Jan. 8	14 54.5	5	3 54.0	37.2	8 45.60	8 57.87	13 50.48	0 29.27	1.43	64.06	+0.00	23.8
12	15 13.8	5	3 40.3	29.7	8 35.00	8 56.22	13 52.13	0 27.84	1.44	61.78	0.00	24.6
15	15 10.8	5	3 37.7	23.4	8 30.55	8 55.22	13 53.13	0 29.27	1.45	63.34	0.10	25.8
30	15 6.8	5	4 15.8	47.9	9 1.85	8 37.03	14 11.32	0 29.99	1.58	41.68	0.30	21.7
31	15 36.2	5	3 36.7	9.3	8 23.00	8 35.66	14 12.69	0 29.49	1.46	42.06	0.30	24.1
Feb. 4	15 3.9	5	4 17.1	48.9	9 3.00	8 37.56	14 10.79	0 28.64	1.59	42.34	0.40	23.3
18	14 59.5	5	4 19.2	55.5	9 7.35	8 40.78	14 7.57	0 28.41	1.36	45.03	0.70	23.5
22	14 56.8	5	4 0.3	34.8	8 47.55	8 19.10	14 29.25	0 28.18	1.35	24.14	0.70	24.6
\delta ⁴ TAURI. $\delta_0 = +17^\circ 8' 43''.2$												
Dec. 27	16 5.0	10	4 19.8	6.9	14 13.35	14 38.17	8 10.18	-0 29.07	-1.66	+62.88	-0.23	8 42.1
Jan. 8	15 52.7	10	4 20.8	4.1	14 12.45	14 39.57	8 8.78	0 29.40	1.54	64.06	0.09	41.8
15	16 55.0	15	0 5.3	49.0	14 57.15	14 37.71	8 10.64	0 29.40	1.59	63.34	0.03	43.0
30	16 21.3	10	4 50.8	22.8	14 36.80	14 17.74	8 30.61	0 30.12	1.65	43.15	+0.23	42.2
31	16 19.4	10	4 52.1	24.9	14 38.50	14 17.81	8 30.54	0 29.62	1.65	42.06	0.25	41.6
Feb. 4	16 45.4	10	4 18.3	51.2	14 4.75	14 29.05	7 29.30	0 28.76	1.04	42.34	0.32	42.2
18	16 48.4	10	4 10.3	48.2	13 59.25	14 21.57	8 26.78	0 28.54	1.34	45.03	0.60	42.5
22	16 6.4	10	4 42.7	16.3	14 29.50	14 0.53	8 47.82	0 28.30	1.40	24.14	0.68	42.9

Date. 1872.		Right Ascension Wires.										Seconds of Transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
		1	2	3	4	5	6	7	8	9	10						11
		ν^3 ERIDANI. $\alpha_0 = 4^h 19^m 13^s.83$															
Jan.	8	30.7	33.1	35.8	40.6	43.1	45.6	48.3	50.6	55.7	58.0	0.6	45.65	-0.30	+29.05	-0.57	19 13.83
	10	29.2	31.5	34.1	39.0	41.4	44.0	46.4	49.1	54.0	56.4	58.8	43.98	0.29	30.71	0.55	13.85
	30	53.1	55.7	58.2	3.2	5.6	8.1	10.8	13.3	18.2	20.7	23.0	8.18	0.34	6.34	0.24	13.94
Feb.	4	50.6	53.2	55.6	0.6	3.0	5.5	8.0	10.6	15.5	18.0	20.7	5.57	0.32	8.73	-0.14	13.84
	18	...	...	...	56.9	59.4	1.9	4.4	6.9	...	...	...	1.90	0.30	11.99	+0.16	13.75
	22	45.9	48.2	50.8	56.0	58.3	0.8	3.4	5.9	10.9	13.3	16.0	0.86	0.29	12.98	0.25	13.80
	24	45.5	47.9	50.5	55.4	57.9	0.4	2.9	5.4	10.4	12.7	15.5	0.41	0.29	13.30	0.29	13.71
		ϵ TAURI.* $\alpha_0 = 4^h 21^m 8^s.65$															
Jan.	10	24.8	27.0	29.2	33.5	35.7	37.9	40.1	42.2	46.6	48.7	50.9	37.87	+0.12	+30.71	+0.00	21 8.70
	12	52.8	55.0	57.1	1.5	3.5	5.8	8.0	10.2	14.4	16.7	18.8	5.80	0.12	2.70	0.00	8.62
	15	52.4	54.7	56.7	1.2	3.3	5.4	7.6	9.8	14.2	16.4	18.6	5.48	0.10	3.02	0.03	8.63
Feb.	4	46.5	48.7	50.8	55.2	57.3	59.5	1.7	3.9	8.3	10.4	12.7	59.55	0.13	8.73	0.24	8.65
	12	44.0	46.2	48.4	52.7	54.9	57.0	59.1	1.3	5.7	8.0	10.2	57.04	0.10	11.17	0.35	8.66
	18	...	...	...	51.9	54.0	56.2	58.4	0.5	...	...	...	56.20	0.13	11.99	0.45	8.77
	22	42.0	44.2	46.3	50.7	52.8	55.0	57.1	59.3	3.7	5.9	8.1	55.01	0.12	12.98	0.51	8.62
		1 CAMELOPARDI seq.* $\alpha_0 = 4^h 21^m 54^s.09$															
Jan.	8	4.0	7.2	10.7	17.5	21.0	24.7	28.3	31.7	38.6	42.1	45.5	24.66	+0.55	+29.05	-0.25	21 54.01
	30	26.0	29.5	33.0	40.0	43.4	46.7	50.4	54.0	0.8	4.3	7.8	46.90	0.62	6.34	+0.12	53.98
	31	24.5	28.1	31.4	38.4	41.9	45.5	49.0	52.2	59.1	2.6	6.2	45.35	0.67	6.90	0.14	(53.06)
	31	25.4	29.0	32.4	39.4	42.8	46.2	49.7	53.2	0.1	3.7	7.0	46.26	0.67	6.90	0.14	53.97
Feb.	1	24.8	28.4	31.7	38.9	42.1	45.6	49.2	52.6	59.5	2.7	6.6	45.64	0.66	7.44	0.19	53.93
	24	17.8	20.2	24.6	31.5	35.1	38.5	42.0	45.5	52.4	55.8	59.4	38.44	0.52	13.30	0.81	(53.07)
	24	18.6	22.1	25.6	32.5	35.9	39.3	42.8	46.4	53.3	56.7	0.3	39.41	0.52	13.30	0.81	54.04
	26	18.9	22.1	25.5	32.6	36.0	39.4	43.1	46.5	53.4	56.9	0.4	39.53	0.48	13.04	0.87	53.92
	28	18.8	22.4	25.9	32.9	36.0	39.6	43.1	46.5	53.6	57.0	0.7	39.68	0.57	12.85	0.93	54.03
		80 TAURI. $\alpha_0 = 4^h 22^m 50^s.82$															
Jan.	10	...	...	...	15.6	17.8	20.0	22.2	24.3	...	...	...	19.98	+0.09	+30.72	-0.02	22 50.77
	30	...	...	...	39.9	42.1	44.2	46.3	48.6	...	...	...	44.22	0.11	6.34	+0.15	50.82
Feb.	12	26.5	28.5	30.7	35.0	37.1	39.2	41.4	43.5	47.8	49.9	52.0	39.24	0.08	11.17	0.33	50.82
	22	24.5	26.6	28.6	32.9	35.0	37.3	39.3	41.5	45.6	48.0	49.8	37.19	0.09	12.98	0.49	50.75
	26	24.2	26.3	28.5	32.8	35.0	37.0	39.2	41.4	45.6	47.8	49.9	37.06	0.08	13.04	0.56	50.74
	28	24.6	26.6	28.8	33.0	35.1	37.3	39.4	41.6	45.9	48.0	50.1	37.31	0.10	12.85	0.59	50.85
		85 TAURI. $\alpha_0 = 4^h 24^m 33^s.20$															
Jan.	10	49.7	51.7	53.9	58.1	0.4	2.4	4.5	6.7	11.0	13.1	15.2	2.43	+0.09	+30.72	-0.03	24 33.21
	15	17.2	19.5	21.6	25.9	27.9	30.1	32.2	34.4	38.6	40.7	43.0	30.10	0.08	3.02	+0.01	33.21
	30	...	...	...	22.4	24.5	26.6	28.7	30.6	...	...	...	26.56	0.12	6.34	0.15	33.17
Feb.	1	12.7	14.8	16.0	21.2	23.4	25.4	27.6	29.6	34.0	36.1	38.3	25.37	0.12	7.45	0.17	33.11
	4	11.3	13.5	15.6	20.0	22.0	24.1	26.3	28.4	32.7	34.7	37.0	24.15	0.11	8.74	0.21	33.21
	12	8.7	11.0	13.1	17.4	19.5	21.6	23.7	25.8	30.1	32.2	34.4	21.59	0.08	11.17	0.32	33.16
		ρ TAURI. $\alpha_0 = 4^h 26^m 35^s.26$															
Jan.	10	...	...	...	0.1	2.3	4.5	6.6	8.7	...	...	...	4.44	+0.09	+30.72	-0.04	26 35.21
	15	19.3	21.4	23.5	27.7	30.0	32.0	34.2	36.3	40.6	42.7	44.8	32.04	0.08	3.02	+0.01	35.15
	30	16.0	18.0	20.1	24.4	26.5	28.6	30.8	32.9	37.2	39.3	41.5	28.66	0.11	6.34	0.13	35.24
Feb.	1	14.6	16.8	18.9	23.2	25.2	27.4	29.6	31.7	35.9	38.1	40.1	27.41	0.12	7.45	0.15	35.13
	4	13.3	15.5	17.6	21.9	24.0	26.1	28.2	30.3	34.7	36.7	38.8	26.10	0.10	8.74	0.19	35.13
	12	10.8	13.0	15.1	19.4	21.5	23.5	25.7	27.9	32.1	34.3	36.5	23.62	0.07	11.17	0.30	35.16

Date. 1872.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
ν ³ ERIDANI. δ ₀ = - 34° 18' 56".6												
Jan. 8	m. 18 38.3	s. 35 3	' 37.8	" 22.4	' 38 30.10	" 38 38.28	' 15 49.93	" -4 17.83	" -2.66	" +64.06	" +11.24	' 18 55.1
10	19 7.4	35 4	14.4	5.5	39 9.95	38 44.08	15 55.73	4 9.62	2.61	62.76	11.62	53.6
30	18 50.5	35 3	48.8	23.2	38 36.00	38 16.82	15 28.47	4 23.36	2.69	43.15	14.71	56.7
Feb. 4	18 46.2	35 4	0.3	35.0	38 47.65	38 26.62	15 38.27	4 12.29	2.70	42.34	15.21	55.7
18	19 21.2	35 3	22.1	2.2	38 12.15	38 33.07	15 44.72	4 10.16	2.43	45.03	15.99	56.3
22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
24	18 38.8	35 3	55.3	35.3	38 45.30	38 21.89	15 33.54	4 57.08	2.44	23.47	16.06	53.5
ε TAURI.* δ ₀ = + 18° 53' 39".4												
Jan. 10	20 59.2	30 0	16.7	5.7	30 11.20	29 44.23	53 4.12	-0 26.25	-1.03	+62.76	-0.50	53 39.1
12	20 45.1	25 4	22.3	12.4	29 17.35	29 43.57	53 4.78	0 25.77	1.48	61.78	0.50	38.8
15	20 47.9	25 4	27.8	13.1	29 20.45	29 42.74	53 5.61	0 27.10	1.45	63.34	0.50	39.9
Feb. 4	20 43.2	30 0	59.3	30.9	29 45.10	29 24.86	53 23.49	0 26.52	1.58	42.34	0.30	37.4
12	20 40.3	25 4	56.5	34.4	29 45.45	29 24.72	53 23.63	0 25.80	1.59	42.37	0.20	38.4
18	21 6.7	25 4	24.7	2.4	29 13.55	29 26.59	53 21.76	0 26.31	1.24	45.03	+0.00	39.2
22	20 33.7	25 4	45.0	18.8	29 31.90	29 5.45	53 42.90	0 26.09	1.32	24.14	0.00	39.6
1 CAMELOPARDI seq.* δ ₀ = + 53° 37' 45".6												
Jan. 8	20 58.1	45 1	1.7	38.2	45 49.95	46 11.06	36 37.29	+0 12.39	+0.16	+64.06	-7.90	37 46.0
30	21 15.1	45 1	27.7	51.8	46 9.75	45 45.00	37 3.35	0 12.64	0.04	43.15	10.60	48.6
31	21 43.3	45 1	57.3	23.0	46 40.15	46 24.59	36 23.76	0 12.49	0.23	42.06	10.70	(7.8)
31	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Feb. 1	21 20.8	45 1	22.2	48.2	46 5.20	45 45.90	37 2.45	0 12.63	0.14	42.78	10.80	47.2
24	20 53.4	45 1	6.3	38.9	45 52.60	45 17.59	37 30.76	0 11.41	-0.16	23.47	11.70	(53.8)
24	21 2.9	45 1	6.3	38.9	45 52.60	46 21.08	36 27.27	0 11.41	+0.02	23.47	11.70	50.5
26	21 24.5	45 0	55.3	22.0	45 38.65	45 26.98	37 21.37	0 12.28	0.34	25.33	11.70	47.6
28	21 29.7	45 1	53.5	20.7	46 37.10	46 29.32	37 19.03	0 12.00	0.25	26.73	11.60	46.4
80 TAURI. δ ₀ = + 15° 21' 19".3												
Jan. 10	22 16.0	0 1	59.6	47.2	1 53.40	1 58.56	20 49.79	-0 30.82	-1.28	+62.76	+0.35	21 20.8
30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Feb. 12	22 23.1	0 2	10.3	49.4	1 59.85	1 39.47	21 8.88	0 30.30	1.36	42.37	1.02	20.6
22	22 17.4	0 1	58.8	31.8	1 45.30	1 20.25	21 28.10	0 30.63	1.24	24.14	1.22	21.6
26	22 23.6	0 1	50.9	24.8	1 37.85	1 20.77	21 27.58	0 31.54	1.21	25.33	1.35	21.5
28	22 26.6	0 1	49.0	22.7	1 35.85	1 21.05	21 27.30	0 30.82	1.25	26.73	1.35	23.3
85 TAURI. δ ₀ = + 15° 34' 29".9												
Jan. 10	23 45.7	45 3	35.7	24.0	48 29.85	48 51.38	33 56.97	-0 30.53	-1.49	+62.76	+0.29	34 28.0
15	24 8.9	45 3	30.8	14.9	48 22.85	48 50.82	33 57.53	0 31.52	1.50	63.34	0.38	28.2
30	24 27.9	45 3	41.8	13.7	48 27.75	48 29.14	34 19.21	0 32.17	1.51	43.15	0.68	29.4
Feb. 1	24 10.1	45 4	4.1	36.0	48 50.05	48 30.71	34 17.64	0 32.14	1.59	42.78	0.70	27.4
4	24 5.5	45 4	8.2	41.8	48 55.00	48 31.49	34 16.86	0 30.84	1.63	42.34	0.78	27.5
12	23 55.8	45 4	15.8	55.0	49 5.40	48 32.79	34 15.56	0 30.01	1.69	42.37	0.94	27.2
ρ TAURI. δ ₀ = + 14° 34' 23".6												
Jan. 10	26 15.4	45 4	16.2	4.4	49 10.30	48 56.05	33 52.30	-0 31.87	-1.59	+62.76	+0.49	34 22.1
15	26 16.8	45 3	43.5	27.8	48 35.65	48 55.34	33 53.01	0 32.90	1.54	63.34	0.62	22.5
30	26 14.9	45 4	5.3	36.8	48 51.05	48 33.52	34 14.83	0 33.70	1.64	43.15	0.96	23.6
Feb. 1	26 3.6	45 4	18.0	51.7	49 4.85	48 34.62	34 13.73	0 33.54	1.72	42.78	1.00	22.2
4	26 46.8	45 3	21.8	56.7	48 9.25	48 35.54	34 12.81	0 32.19	1.57	42.34	1.06	22.4
12	26 1.3	45 4	15.8	55.1	49 5.45	48 37.13	34 11.22	0 31.32	1.71	42.37	1.25	21.8

Date. 1872.		Right Ascension Wires.										Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
		1	2	3	4	5	6	7	8	9	10						11
		A. DRACONIS L. C.* $a_0 = 16^h 28^m 14^s.46$															
Jan.	30	33.0	39.1	45.2	56.7	2.2	7.9	13.8	19.2	31.0	36.7	42.6	7.94	-1.20	+ 6.34	+1.64	28 14.72
Feb.	15	29.5	34.8	40.7	51.9	58.0	3.6	9.4	15.0	26.7	32.3	38.5	3.67	1.00	11.31	0.62	14.60
	24	...	...	...	51.2	56.7	2.4	8.4	14.1	...	...	...	2.56	1.00	13.30	+0.03	14.89
	26	...	...	...	50.8	56.9	2.5	8.4	14.0	...	...	...	2.52	0.93	13.04	-0.10	14.53
		α TAURI.* $a_0 = 4^h 28^m 34^s.64$															
Jan.	10	51.0	53.1	55.4	59.6	1.8	3.8	6.0	8.2	12.4	14.6	16.6	3.86	+0.10	+30.72	-0.04	28 34.64
	15	18.8	20.9	22.9	27.2	29.4	31.5	33.7	35.8	40.0	42.2	44.4	31.53	0.09	3.02	-0.01	34.63
Feb.	1	14.0	16.3	18.4	22.6	24.8	26.9	29.0	31.1	35.6	37.7	3.7	26.92	0.13	7.45	+0.13	34.63
	4	12.6	14.8	17.0	21.2	23.3	25.5	27.7	29.9	34.0	36.2	38.4	25.51	0.11	8.74	0.18	34.54
	12	10.3	12.5	14.6	18.9	21.0	23.1	25.3	27.4	31.6	33.8	36.0	23.14	0.08	11.17	0.29	34.68
	18	9.3	11.4	13.5	17.7	19.9	22.1	24.3	26.4	30.7	32.9	35.1	22.12	0.10	12.00	0.39	34.61
	22	8.3	10.4	12.4	16.7	18.9	21.0	23.1	25.4	29.7	31.8	34.0	21.06	0.10	12.98	0.46	34.60
	28	8.4	10.4	12.6	16.8	19.0	21.2	23.3	25.4	29.8	31.9	34.0	21.16	0.11	12.85	0.55	34.67
		ν ERIDANI.* $a_0 = 4^h 29^m 55^s.38$															
Jan.	10	...	...	...	20.9	22.9	25.0	27.0	29.0	...	...	...	24.96	-0.04	+30.72	-0.14	29 55.50
	30	36.9	38.9	40.9	44.9	47.2	49.0	51.1	53.3	57.4	59.4	1.6	49.15	0.04	6.34	+0.03	55.48
Feb.	12	...	...	...	42.0	44.1	46.2	48.3	52.3	54.3	56.5	...	44.12	0.04	11.17	0.20	55.45
	15	...	...	...	39.8	42.0	44.0	46.0	48.0	...	...	...	43.96	0.04	11.31	0.25	55.48
	24	...	...	...	37.6	39.6	41.8	43.8	46.0	...	...	...	41.76	0.04	13.30	0.40	55.42
	26	29.7	31.7	33.8	38.0	40.1	42.1	44.2	46.3	50.3	52.3	54.4	42.08	0.04	13.04	0.43	55.51
	28	...	...	...	38.1	40.1	42.3	44.4	46.4	...	...	...	42.26	0.04	12.85	0.46	55.53
		53 ERIDANI. $a_0 = 4^h 32^m 19^s.13$															
Jan.	10	36.1	38.2	40.3	44.5	46.7	48.8	50.9	53.1	57.3	59.3	1.6	48.80	-0.12	+30.72	-0.26	32 19.14
	30	0.2	2.4	4.6	8.9	10.9	13.0	15.1	17.3	21.5	23.8	25.9	13.05	0.14	6.34	0.07	19.18
Feb.	1	59.2	1.3	3.5	6.8	9.9	12.0	14.1	16.2	20.4	22.6	24.8	11.89	0.15	7.45	-0.04	19.15
	12	55.1	57.3	59.5	3.7	5.8	7.9	10.1	12.3	16.5	18.6	20.8	7.96	0.10	11.18	+0.13	19.17
	24	52.8	55.0	57.0	1.3	3.4	5.5	7.7	9.9	14.1	16.3	18.4	5.58	0.12	13.31	0.33	19.10
	26	53.1	55.2	57.3	1.6	3.7	5.8	8.0	10.2	14.5	16.6	18.7	5.88	0.11	13.04	0.37	19.18
	28	53.2	55.4	57.4	1.8	3.9	6.0	8.3	10.4	14.6	16.7	18.8	6.05	0.13	12.85	0.40	19.17
		τ TAURI.* $a_0 = 4^h 34^m 33^s.83$															
Jan.	10	49.8	52.0	54.2	58.7	0.8	3.0	5.2	7.4	12.0	14.2	16.4	3.06	+0.15	+30.72	-0.05	34 33.88
	30	13.8	16.1	18.3	22.7	24.9	27.2	29.4	31.6	36.2	39.4	40.7	27.30	0.18	6.34	+0.11	33.93
Feb.	12	9.0	11.2	13.4	17.8	20.1	22.3	24.5	26.6	31.1	33.5	35.7	22.29	0.12	11.18	0.28	33.87
	14	8.8	11.0	13.2	17.7	19.9	22.0	24.3	26.6	31.0	33.2	35.5	22.11	0.11	11.32	0.32	33.86
	24	6.6	8.8	11.0	15.4	17.6	20.0	22.2	24.4	28.8	31.0	33.3	19.92	0.15	13.31	0.49	33.87
	26	6.8	9.0	11.3	15.7	18.0	20.2	22.4	24.6	29.0	31.4	33.6	20.18	0.14	13.04	0.52	33.88
	28	6.9	9.0	11.4	15.8	18.0	20.3	22.5	24.8	29.2	31.4	33.7	20.27	0.17	12.85	0.55	33.84
		4 CAMELOPARDI.* $a_0 = 4^h 37^m 20^s.94$															
Jan.	10	27.6	31.4	35.0	42.5	46.2	50.0	53.6	57.3	4.7	8.7	12.2	49.93	+0.57	+30.72	-0.40	36 20.82
	12	55.7	59.1	3.0	10.5	14.4	18.0	21.7	25.5	32.9	36.8	40.5	18.01	0.58	2.71	0.38	20.92
	30	51.5	55.3	59.0	6.6	10.1	13.8	17.6	21.6	28.9	32.4	36.4	13.93	0.69	6.34	-0.05	20.91
Feb.	12	46.5	50.4	54.1	1.5	5.2	8.9	12.6	16.3	23.9	27.6	31.3	8.94	0.48	11.18	+0.29	20.89
	14	46.5	50.1	54.0	1.3	5.1	8.7	12.5	16.1	23.8	27.6	31.3	8.82	0.41	11.32	0.35	20.90
	24	44.0	47.7	51.5	59.0	2.6	6.4	10.1	13.9	21.4	25.0	28.8	6.40	0.58	13.31	0.66	20.95
	26	44.3	47.9	51.7	59.3	2.9	6.6	10.3	14.0	21.4	25.3	28.8	6.59	0.53	13.04	0.73	20.89
	28	44.3	47.9	51.7	59.0	2.8	6.6	10.5	14.1	21.6	25.2	29.0	6.61	0.63	12.85	0.79	20.88

Date. 1872.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
A. DRACONIS L. C.* $\delta_0 = +110^\circ 57' 18''.4$												
Jan. 30	27 53.4	25 3	48.3	5.8	28 27.05	28 33.86	54 14.49	+2 40.97	+1.79	+43.15	-17.80	57 22.6
Feb. 15	27 47.8	25 3	41.7	2.5	28 22.10	28 29.28	54 19.07	2 30.11	2.00	43.73	20.60	14.3
24	27 3.9	25 2	47.9	18.7	27 33.30	28 0.85	54 47.50	2 25.18	2.67	23.47	21.30	17.5
26	28 11.7	25 3	39.6	59.6	28 19.60	28 15.28	54 33.07	2 36.35	1.98	25.33	21.40	15.3
α TAURI.* $\delta_0 = +16^\circ 14' 59''.0$												
Jan. 10	27 40.5	5 2	58.6	45.8	7 52.20	8 22.27	14 26.08	-0 29.65	-1.42	+62.76	+0.10	14 57.9
15	28 12.0	5 3	6.2	50.2	7 58.20	8 23.26	14 25.09	0 30.60	1.41	63.34	0.20	56.6
Feb. 1	28 12.8	5 3	31.8	4.4	8 18.10	8 0.34	14 48.01	0 31.21	1.49	42.78	0.50	58.6
4	28 10.5	5 3	34.9	9.2	8 22.05	8 3.15	14 45.20	0 29.95	1.50	42.34	0.60	56.7
12	27 58.8	5 3	45.0	23.6	8 34.30	8 3.81	14 44.54	0 29.13	1.58	42.37	0.60	56.8
18	28 7.7	5 3	33.9	12.8	8 23.35	8 5.21	14 43.14	0 29.71	1.30	45.03	0.80	58.0
22	28 1.1	5 3	19.8	54.7	8 7.25	7 42.05	15 6.30	0 29.47	1.30	24.14	0.80	60.5
28	28 1.6	5 3	23.3	57.9	8 10.60	7 45.91	15 2.44	0 29.66	1.40	26.73	1.00	59.1
ν ERIDANI.* $\delta_0 = -3^\circ 36' 57''.6$												
Jan. 10	29 35.2	0 0	8.7	59.7	60 4.20	59 50.71	37 2.36	-1 2.50	-1.70	+62.76	+4.70	36 59.1
30	29 33.6	0 0	2.2	36.0	59 49.10	59 28.80	36 40.45	1 5.84	2.31	43.15	6.50	58.9
Feb. 12	29 59.5	55 4	22.8	3.8	59 13.30	59 33.48	36 45.13	1 1.42	2.24	42.37	7.20	59.2
15	29 54.8	55 4	28.7	6.8	59 17.75	59 31.89	36 43.54	1 2.57	1.99	43.73	7.30	57.1
24	29 54.2	55 4	8.1	49.7	58 58.90	59 15.14	36 26.79	0 59.42	1.97	23.47	7.60	57.1
26	29 25.1	55 4	45.3	23.7	59 34.50	59 12.24	36 23.89	1 3.96	2.01	25.33	7.60	56.9
28	29 45.2	55 4	24.1	1.3	59 12.70	59 16.50	36 28.15	1 2.52	2.11	26.73	7.70	58.3
53 ERIDANI. $\delta_0 = -14^\circ 33' 22''.8$												
Jan. 10	31 29.2	55 0	23.4	15.7	55 19.55	55 44.94	32 56.59	-1 32.56	-1.97	+62.76	+7.09	33 21.3
30	31 53.6	55 1	2.0	37.3	55 49.65	55 24.88	32 36.53	1 37.51	2.04	43.15	9.49	23.4
Feb. 1	31 50.9	55 1	2.7	37.3	55 50.00	55 23.33	32 34.98	1 37.46	2.04	42.78	9.67	22.0
12	31 48.1	55 1	5.2	47.3	55 56.25	55 30.97	32 42.62	1 30.95	2.06	42.37	10.47	22.8
24	31 49.0	55 0	43.3	25.5	55 34.40	55 13.32	32 24.97	1 27.98	1.99	23.47	10.95	20.5
26	31 47.8	55 0	42.0	21.0	55 31.50	55 8.51	32 20.16	1 34.71	1.98	25.33	10.97	20.6
28	31 56.8	55 0	37.0	15.7	55 26.35	55 14.66	32 26.31	1 32.58	2.02	26.73	10.99	23.2
τ TAURI.* $\delta_0 = +22^\circ 42' 31''.9$												
Jan. 10	33 40.6	40 0	34.7	18.6	40 26.65	40 54.43	41 53.92	-0 21.61	-0.95	+62.76	-1.40	42 32.7
30	34 7.0	40 1	13.5	39.8	40 56.65	40 32.07	42 16.28	0 22.76	1.01	43.15	1.70	34.0
Feb. 12	33 58.9	40 1	15.8	51.3	41 3.55	40 35.23	42 13.12	0 21.24	1.04	42.37	1.70	31.5
14	34 1.1	40 1	14.0	46.3	41 0.15	40 34.73	42 13.62	0 21.60	1.03	41.76	1.60	31.2
24	34 0.6	40 0	52.0	27.1	40 39.55	40 16.19	42 32.16	0 20.55	0.92	23.47	1.50	32.7
26	34 1.3	40 0	52.1	23.7	40 37.90	40 15.13	42 33.22	0 22.11	0.92	25.33	1.50	34.0
28	34 5.7	40 0	51.9	21.3	40 36.60	40 18.93	42 29.42	0 21.62	0.91	26.73	1.50	32.1
4 CAMELOPARDI.* $\delta_0 = +56^\circ 31' 34''.8$												
Jan. 10	36 17.2	50 2	9.8	50.2	52 0.00	52 24.14	30 24.21	+0 15.24	+0.07	+62.76	-8.20	31 34.1
12	36 48.6	50 2	7.7	48.8	51 58.25	52 19.95	30 28.40	0 14.96	0.10	61.78	8.50	36.7
30	36 44.7	50 2	39.3	2.6	52 20.95	51 59.82	30 48.53	0 16.05	0.03	43.15	11.20	36.6
Feb. 12	36 38.8	50 2	32.6	6.3	52 19.45	51 57.67	30 50.68	0 14.97	+0.03	42.37	12.30	35.7
14	36 35.1	50 2	39.6	8.3	52 23.95	51 59.56	30 48.79	0 15.23	-0.04	41.76	12.50	33.2
24	36 33.5	50 2	15.1	49.0	52 2.05	51 38.24	31 10.11	0 14.49	+0.15	23.47	12.80	35.4
26	36 35.4	50 2	20.5	48.8	52 4.65	51 42.07	31 6.28	0 15.59	+0.16	25.33	12.80	34.6
28	36 55.3	50 2	8.4	35.3	51 51.85	51 43.67	31 4.68	0 15.25	+0.34	26.73	12.80	34.2

Date. 1872.		Right Ascension Wires.										Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
		1	2	3	4	5	6	7	8	9	10							11
μ ERIDANI.* $a_0 = 4^h 39^m 6^s.24$																	
Jan.	10	23.4	25.4	27.4	31.6	33.6	35.7	37.8	39.8	44.0	46.1	48.1	35.72	-0.04	+30.72	-0.17	39 6.23
	30	47.6	49.6	51.7	55.7	57.8	59.9	1.9	4.1	8.3	10.3	12.3	59.93	0.04	6.34	-0.02	6.21
Feb.	12	42.4	44.6	46.7	50.8	52.9	55.0	57.1	59.1	3.2	5.2	7.3	54.94	0.04	11.18	+0.15	6.23
	14	42.3	44.5	46.5	50.6	52.6	54.8	56.8	58.9	3.0	5.0	7.2	54.75	0.03	11.32	0.19	6.23
	24	40.1	42.3	44.3	48.4	50.5	52.5	54.7	56.7	0.7	2.9	5.0	52.55	0.04	13.31	0.36	6.18
	26	40.5	42.4	44.6	48.6	50.7	52.7	54.8	57.0	1.0	3.2	5.2	52.79	0.04	13.04	0.39	6.18
	28	40.6	42.7	44.7	48.9	50.9	53.0	55.0	57.0	1.3	3.3	5.3	52.97	0.04	12.85	0.42	6.20
η CAMELOPARDI.* $a_0 = 4^h 41^m 20^s.21$																	
Jan.	10	19.4	24.3	29.3	39.5	44.6	49.6	54.8	59.9	10.1	14.9	20.2	49.69	+0.85	+30.73	-0.82	41 20.45
	12	47.3	52.1	57.3	7.3	12.3	17.5	22.7	27.9	38.0	43.0	48.0	17.58	0.88	2.71	0.79	20.38
	30	42.5	47.7	52.9	3.3	8.0	13.2	18.4	23.7	33.7	38.6	44.0	13.27	1.04	6.34	-0.30	20.35
Feb.	12	37.5	42.8	48.0	58.1	3.2	8.3	13.3	18.5	28.6	33.4	38.8	8.23	0.73	11.18	+0.19	20.33
	14	...	...	...	58.1	3.3	8.0	13.4	18.5	...	...	...	8.26	0.62	11.32	0.28	20.48
	24	35.0	40.0	45.1	55.3	0.3	5.5	10.5	15.5	25.8	30.8	35.8	5.42	0.87	13.31	0.72	20.32
	28	35.2	40.3	45.3	55.5	0.6	5.6	10.7	15.9	26.0	31.1	36.3	5.68	0.95	12.85	0.91	20.39
π^3 ORIONIS. $a_0 = 4^h 42^m 53^s.62$																	
Jan.	30	34.7	36.7	39.0	43.0	45.1	47.2	49.3	51.4	55.4	57.6	59.7	47.19	+0.04	+ 6.34	+0.02	42 53.59
Feb.	12	...	...	...	38.0	40.0	42.2	44.3	46.3	...	...	...	42.16	0.02	11.18	0.19	53.55
	15	29.6	31.6	33.6	38.0	40.0	42.1	44.1	46.2	50.3	52.4	54.5	42.04	0.03	11.31	0.24	53.62
	22	27.8	29.9	32.0	36.0	38.0	40.1	42.2	44.4	48.5	50.5	52.6	40.18	0.03	12.99	0.34	53.54
	24	...	...	...	35.7	37.7	39.8	42.0	44.0	...	...	...	39.84	0.03	13.31	0.37	53.55
	28	...	...	...	36.1	38.1	40.3	42.4	44.4	...	...	...	40.26	0.04	12.85	0.43	53.58
ι^1 ORIONIS. $a_0 = 4^h 45^m 17^s.58$																	
Jan.	30	58.5	0.6	2.7	6.9	9.0	11.0	13.2	15.3	19.6	21.6	24.0	11.13	+0.10	+ 6.34	+0.04	45 17.61
Feb.	15	53.3	55.4	57.5	1.7	4.0	6.0	8.1	10.3	14.6	16.6	18.7	6.02	0.08	11.31	0.25	17.66
	22	51.4	53.5	55.5	0.0	2.1	4.2	6.3	8.4	12.6	14.7	17.0	4.15	0.08	12.99	0.36	17.58
	24	51.0	53.1	55.3	59.6	1.7	3.8	5.9	8.0	12.2	14.5	16.6	3.79	0.08	13.31	0.39	17.57
	26	51.3	53.4	55.6	59.8	1.9	4.0	6.2	8.3	12.6	14.7	16.7	4.04	0.08	13.04	0.43	17.59
ι AURIGÆ.* $a_0 = 4^h 48^m 39^s.60$																	
Jan.	10	54.2	56.5	58.9	3.8	6.3	8.8	11.2	13.7	18.6	21.0	23.5	8.77	+0.24	+30.73	-0.14	48 39.60
	12	22.2	24.6	27.0	31.9	34.3	36.7	39.2	41.7	46.6	49.0	51.6	36.80	0.24	2.71	-0.14	39.61
	30	18.2	20.6	23.1	28.0	30.4	33.0	35.3	37.6	42.8	45.3	47.7	32.91	0.29	6.34	+0.02	39.56
Feb.	22	...	...	...	21.1	23.4	26.0	28.4	30.9	...	...	...	25.96	0.24	12.99	0.40	39.59
	24	10.9	13.4	15.8	20.7	23.1	25.6	28.1	30.6	35.5	37.8	40.3	25.62	0.24	13.31	0.44	39.61
	26	11.0	13.4	16.0	20.9	23.4	25.8	28.3	30.8	35.7	38.0	40.6	25.81	0.22	13.04	0.47	39.54
	28	11.2	13.7	16.1	21.0	23.6	25.8	28.4	30.8	35.8	38.3	40.6	25.94	0.26	12.85	0.51	39.56
η CAMELOPARDI.* $a_0 = 4^h 52^m 2^s.47$																	
Jan.	10	6.7	10.8	15.0	23.3	27.1	31.5	35.6	39.8	48.4	52.4	56.6	31.56	+0.66	+30.73	-0.62	52 2.33
	12	34.7	38.8	42.9	51.2	55.5	59.5	3.7	8.0	16.0	20.4	24.5	59.56	0.68	2.71	0.60	2.35
	30	30.8	34.8	38.7	47.1	51.2	55.6	59.7	3.8	12.0	16.2	20.3	55.47	0.80	6.34	-0.25	2.36
Feb.	26	...	...	...	39.8	43.7	47.9	52.2	56.6	...	...	...	48.04	0.62	13.04	+0.60	2.30
	28	...	...	...	40.0	44.0	48.0	52.1	56.5	...	...	...	48.12	0.74	12.85	+0.67	2.38

Date. 1872.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.							
			E.	G.															
μ ERIDANI.* $\delta_0 = -3^\circ 29' 29''.1$																			
Jan. 10	m. 38	s. 56.4	50	2	52.2	44.0	52	48.10	52	20.44	29	32.09	-1	2.27	-1.98	+62.76	+4.40	29	29.2
30	38	45.3	50	2	31.3	4.7	52	18.00	51	58.88	29	10.53	1	5.57	1.98	43.15	6.20	28.7	
Feb. 12	38	41.9	50	2	28.8	10.3	52	19.55	52	2.52	29	14.17	1	1.17	1.98	42.37	7.00	28.0	
14	38	46.9	50	2	22.0	0.2	52	11.10	52	0.90	29	12.55	1	2.25	1.98	41.76	7.10	27.9	
24	38	37.7	50	2	15.5	56.9	52	6.20	51	46.68	28	58.33	0	59.20	1.83	23.47	7.40	28.5	
26	38	45.2	50	2	5.0	41.8	51	53.40	51	43.45	28	55.10	1	3.70	1.82	25.33	7.40	27.9	
28	38	34.3	50	2	24.3	1.1	52	12.70	51	48.21	28	59.86	1	2.31	1.90	26.73	7.50	29.8	
9 CAMELOPARDI.* $\delta_0 = +66^\circ 7' 16''.9$																			
Jan. 10	40	34.7	15	1	36.2	16.5	16	26.35	16	49.60	5	58.75	+0	26.09	+0.41	+61.78	-9.90	7	17.1
12	40	59.7	15	1	55.1	16.6	16	35.85	16	28.62	6	19.73	0	27.98	0.70	43.15	13.20	18.4	
30	40	21.7	15	2	5.7	35.3	16	50.50	16	25.79	6	22.56	0	26.11	0.27	42.37	14.70	16.6	
Feb. 12	40	10.0	15	2	15.6	40.6	16	58.10	16	27.12	6	21.23	0	26.57	0.01	41.76	14.80	14.8	
14	40	16.3	15	1	45.1	17.6	16	31.35	16	5.26	6	43.09	0	25.27	0.34	23.47	15.40	16.8	
24	40	30.0	15	1	46.8	11.7	16	29.25	16	10.28	6	38.07	0	26.59	0.53	26.73	15.50	16.4	
π^3 ORIONIS. $\delta_0 = +6^\circ 44' 9''.3$																			
Jan. 30	42	31.5	35	4	12.0	45.5	38	58.75	38	38.30	44	10.05	-0	45.63	-1.90	+43.15	+3.18	44	8.8
Feb. 12	42	48.5	35	3	43.0	23.2	38	33.10	38	41.31	44	7.04	0	42.58	1.84	42.37	3.68	8.7	
15	(42 17.7)	35	4	6.8	43.0	38	54.90	38	23.23	44	25.12	0	43.41	1.69	43.73	3.75	(27.5)		
22	42	19.6	35	4	3.0	34.6	38	48.80	38	21.95	44	26.40	0	43.07	1.68	24.14	3.92	9.7	
24	42	36.0	35	3	38.6	19.6	38	29.10	38	24.15	44	24.20	0	41.20	1.63	23.47	3.96	8.8	
28	42	52.3	35	3	22.0	57.2	38	9.60	38	25.24	44	23.11	0	43.36	1.70	26.73	4.02	8.8	
$\frac{1}{0}$ ORIONIS. $\delta_0 = +14^\circ 2' 6''.0$																			
Jan. 30	44	53.8	20	1	27.2	58.2	21	12.70	20	50.68	1	57.67	-0	34.33	-1.32	+43.15	+1.00	2	6.2
Feb. 15	44	42.1	20	1	36.7	12.0	21	24.35	20	53.92	1	54.43	0	32.69	1.26	43.73	1.24	5.5	
22	44	46.0	20	1	9.8	43.0	20	56.40	20	33.36	2	14.99	0	32.42	1.26	24.14	1.36	6.8	
24	44	43.6	20	1	9.8	50.8	21	0.30	20	34.58	2	13.77	0	31.01	1.24	23.47	1.40	6.4	
26	44	44.7	20	1	11.0	46.3	20	58.65	20	34.08	2	14.27	0	33.35	1.26	25.33	1.44	6.4	
ι AURIGÆ.* $\delta_0 = +32^\circ 57' 38''.8$																			
Jan. 10	47	45.5	25	0	39.9	25.0	25	32.45	25	58.61	56	49.74	-0	10.03	-0.57	+62.76	-3.60	57	38.2
12	48	12.9	25	0	37.0	22.4	25	29.70	25	56.54	56	51.81	0	9.85	0.57	61.78	3.70	39.5	
30	48	12.3	25	1	16.2	43.3	25	59.75	25	37.07	57	11.28	0	10.56	0.61	43.15	4.70	38.6	
Feb. 22	48	34.2	25	0	25.1	55.1	25	10.10	25	19.14	57	29.21	0	9.97	0.42	24.14	5.20	37.8	
24	48	2.5	25	0	56.1	33.1	25	44.60	25	19.17	57	29.18	0	9.54	0.57	23.47	5.20	37.3	
26	48	7.8	25	0	53.5	24.8	25	39.15	25	19.33	57	29.02	0	10.26	0.50	25.33	5.20	38.4	
28	48	5.2	25	0	57.9	29.3	25	43.60	25	21.46	57	26.89	0	10.04	0.56	26.73	5.20	37.8	
10 CAMELOPARDI.* $\delta_0 = +60^\circ 15' 5''.1$																			
Jan. 10	50	48.2	5	3	38.2	20.0	8	29.10	8	57.93	13	50.42	+0	19.50	-0.11	+62.76	-8.30	15	4.3
12	51	22.6	5	3	46.3	21.8	8	34.05	8	58.63	13	49.72	0	19.14	+0.01	61.78	8.70	2.0	
30	51	9.4	5	4	22.7	45.3	9	4.00	8	33.98	14	14.37	0	20.53	-0.30	43.15	11.70	6.0	
Feb. 26	51	41.6	5	3	36.1	4.3	8	20.20	8	16.02	14	32.33	0	19.94	+0.49	25.33	14.00	4.0	
28	51	47.6	5	3	33.8	59.8	8	16.80	8	16.48	14	31.87	0	19.52	0.41	26.73	14.00	4.5	

Date. 1872.	Right Ascension Wires.											Seconds of transit over Mean Wire.	$n \tan \delta$ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
ϵ AURIGÆ.* $a_0 = 4^h 52^m 47^s.15$																
Feb. 22	16.4	19.3	22.1		30.6	33.4	36.4	39.4	45.0	47.8	50.6	33.54	+0.36	+12.99	+0.40	52 47.29
24	16.1	18.8	21.8		30.2	33.1	35.9	38.8	44.4	47.3	50.3	33.10	0.36	13.31	0.45	47.22
28	...	...	...		30.3	33.4	36.4	39.0	...	...	...	33.38	0.39	12.85	0.55	47.17
ζ AURIGÆ.* $a_0 = 4^h 53^m 32^s.00$																
Jan. 30	...	...	...	19.9	22.5	25.3	27.9	30.6	...	...	...	25.24	+0.39	+ 6.34	-0.03	53 31.94
Feb. 15	3.9	6.6	9.2	14.8	17.3	20.1	22.9	25.6	31.0	33.7	36.6	20.16	0.33	11.31	+0.25	32.05
22	...	...	...	12.7	15.7	18.3	21.1	23.8	...	...	...	18.32	0.33	12.99	0.39	32.03
24	1.7	4.4	7.0	12.5	15.2	18.0	20.7	23.4	28.9	31.6	34.3	17.97	0.33	13.31	0.44	32.05
26	1.8	4.7	7.3	12.7	15.5	18.3	21.0	23.7	29.3	31.8	34.5	18.24	0.30	13.04	0.49	32.07
ι TAURI.* $a_0 = 4^h 55^m 26^s.78$																
Jan. 10	42.9	45.0	47.2	51.5	53.9	56.0	58.1	0.4	4.8	7.0	9.2	56.00	+0.14	+30.74	-0.13	55 26.75
30	6.9	9.2	11.5	15.8	17.9	20.3	22.4	24.6	29.1	31.3	33.6	20.24	0.17	6.34	+0.00	26.75
Feb. 7	...	...	...	12.4	14.5	16.6	19.0	21.1	...	...	...	16.72	0.13	9.85	0.10	26.80
8	3.0	5.3	7.4	11.9	14.1	16.3	18.5	20.7	25.0	27.3	29.6	16.28	0.12	10.22	0.11	26.73
26	0.1	2.1	4.3	8.8	11.0	13.2	15.4	17.7	22.1	24.3	26.6	13.24	0.13	13.04	0.39	26.80
28	...	...	...	...	...	13.3	15.5	17.8	22.1	24.6	26.6	13.34	0.15	12.85	0.42	26.76
ϵ URSÆ MINORIS L. C.* $a_0 = 16^h 59^m 9^s.93$																
Jan. 10	3.5	19.4	34.3	5.0	20.0	35.6	51.0	6.2	36.2	51.8	6.9	35.45	-2.78	+30.74	+6.30	59 9.71
12	32.6	47.4	3.6	33.5	49.0	3.6	19.0	34.5	5.1	20.0	35.4	3.97	2.86	2.71	6.13	9.95
30	31.0	46.1	1.6	33.6	48.1	3.5	18.4	33.1	3.7	19.8	34.3	3.02	3.39	6.34	4.16	10.13
Feb. 7	27.7	42.3	58.3	28.8	44.3	59.0	13.9	29.4	59.6	14.0	31.3	59.96	2.73	9.85	3.08	10.16
8	27.3	42.8	57.9	28.6	44.0	59.3	14.0	29.5	59.7	15.3	30.6	59.00	2.47	10.22	2.94	9.69
22	27.0	42.3	58.1	28.7	44.1	59.2	14.2	29.6	59.9	15.5	30.7	59.03	2.83	12.99	0.79	9.98
26	27.7	43.0	58.2	29.1	43.9	59.0	14.4	29.8	0.3	15.0	30.8	59.20	2.62	13.04	+0.13	9.75
28	28.4	43.9	59.4	29.4	44.7	0.7	15.2	30.7	1.4	16.5	31.4	0.15	3.11	12.85	-0.19	9.70
Mar. 11	...	...	...	30.7	46.7	1.3	16.9	31.5	...	...	...	1.42	2.81	13.74	-2.16	10.19
λ ERIDANI.* $a_0 = 5^h 3^m 1^s.33$																
Jan. 10	18.6	20.6	22.7	26.8	28.8	31.0	33.0	35.1	39.3	41.4	43.4	30.97	-0.08	+30.74	-0.30	3 1.33
30	42.9	44.9	47.0	51.2	53.4	55.3	57.5	59.5	3.6	5.7	7.7	55.34	0.09	6.34	0.17	1.42
Feb. 7	...	...	...	47.5	49.6	51.5	53.6	55.7	...	...	...	51.58	0.08	9.85	-0.07	1.28
22	35.8	37.8	39.9	44.0	46.1	48.2	50.3	52.3	56.6	58.6	0.7	48.21	0.08	12.99	+0.16	1.28
26	35.6	37.7	39.9	43.9	46.0	48.2	50.3	52.4	56.5	58.5	0.6	48.15	0.08	13.04	+0.23	1.34
μ AURIGÆ.* $a_0 = 5^h 4^m 40^s.29$																
Jan. 10	53.8	56.5	59.1	4.3	6.9	9.5	12.1	14.7	20.0	22.6	25.2	9.52	+0.29	+30.74	-0.23	4 40.32
12	21.8	24.4	27.0	32.3	34.9	37.6	40.1	42.7	48.0	50.6	53.2	37.51	0.30	2.71	0.23	40.29
30	18.0	20.6	23.3	28.5	31.0	33.7	36.2	38.9	44.1	46.7	49.5	33.68	0.36	6.34	-0.09	40.29
Feb. 7	14.4	16.9	19.7	24.8	27.4	30.2	32.7	35.4	40.7	43.3	45.9	30.13	0.28	9.85	+0.02	40.28
8	14.0	16.6	19.2	24.4	27.0	29.7	32.5	35.0	40.2	42.9	45.4	29.72	0.26	10.22	0.04	40.24
26	10.8	13.3	15.9	21.1	23.9	26.4	29.1	31.8	36.8	39.7	42.3	26.46	0.27	13.04	0.38	40.15
Mar. 11	10.0	12.5	15.0	20.3	22.9	25.6	28.2	30.8	36.0	38.6	41.3	25.56	0.29	13.74	0.68	40.27

Date. 1872.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.								
			E.	G.																
ε AURIGÆ.* δ ₀ = + 43° 37' 51".8																				
Feb.	22	m. 52	s. 9.3	45	0	53.1	20.6	45	36.85	45	13.86	37	34.49	+0	1.30	-0.16	+24.14	-8.80	37	51.0
	24	52	7.3	45	0	49.4	25.2	45	37.30	45	12.79	37	35.56	0	1.24	0.18	23.47	8.70		51.4
	28	52	31.1	45	0	32.1	1.2	45	16.65	45	14.47	37	33.88	0	1.31	+0.01	26.73	8.70		53.2
ζ AURIGÆ.* δ ₀ = + 40° 53' 10".1																				
Jan.	30	53	35.9	30	0	18.4	45.4	30	1.90	30	12.52	52	35.83	-0	1.66	-0.08	+43.15	-6.90	53	10.3
Feb.	15	53	16.3	30	0	31.5	2.2	30	16.85	30	12.98	52	35.37	0	1.58	0.08	43.73	7.80		9.6
	22	53	29.4	30	0	0.2	27.2	29	43.70	29	54.71	52	53.64	0	1.57	0.41	24.14	8.00		7.8
	24	53	16.3	30	0	6.1	43.0	29	54.55	29	52.86	52	55.49	0	1.50	0.39	23.47	8.10		9.0
	26	52	57.1	30	0	29.7	59.7	30	14.70	29	53.77	52	54.58	0	1.62	0.18	25.33	8.10		10.0
ι TAURI.* δ ₀ = + 21° 24' 16".8																				
Jan.	10	55	10.9	55	4	35.0	19.1	59	27.05	59	8.48	23	39.87	-0	23.19	-1.37	+62.76	-1.20	24	16.9
	30	55	3.0	55	4	24.7	52.6	59	8.65	58	47.62	24	0.73	0	24.47	1.42	43.15	1.40		16.6
Feb.	7	55	26.6	55	3	48.9	18.9	58	33.90	58	45.99	24	2.36	0	24.12	1.33	41.71	1.40		17.2
	8	55	2.3	55	4	19.2	49.9	59	4.55	58	47.44	24	0.91	0	23.73	1.40	42.81	1.40		17.2
	26	55	32.7	55	3	19.9	51.8	58	5.85	58	29.68	24	18.67	0	23.71	1.12	25.33	1.30		17.9
	28	55	35.9	55	3	18.9	50.0	58	4.45	58	32.07	24	16.28	0	23.21	1.23	26.73	1.30		17.3
ε URSÆ MINORIS L. C.* δ ₀ = + 97° 45' 21".9																				
Jan.	10	0	15.5	35	4	41.6	18.8	39	30.20	39	48.27	43	0.08	+1	27.39	+2.17	+62.76	-10.90	45	21.5
	12	57	10.5	40	0	16.0	54.0	40	5.00	39	46.32	43	2.03	1	25.76	2.84	61.78	11.50		20.9
	30	0	46.6	40	0	4.8	23.7	39	44.25	39	25.91	43	24.44	1	32.20	2.17	43.15	16.60		25.4
Feb.	7	56	52.8	35	4	19.2	43.2	39	1.20	39	23.52	43	24.83	1	30.93	2.54	41.71	18.30		21.7
	8	59	46.8	35	4	46.4	10.5	39	28.45	39	19.99	43	28.36	1	29.43	1.51	42.81	18.50		23.6
	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	26	56	50.4	35	4	0.0	23.3	38	41.65	39	4.45	43	43.90	1	29.36	2.85	25.33	20.70		20.7
	28	57	11.9	35	4	0.4	23.0	38	41.70	39	0.86	43	47.49	1	27.49	2.40	26.73	20.80		23.3
Mar.	11	0	25.5	35	4	16.0	44.8	39	0.40	38	56.14	43	52.21	1	26.97	1.57	25.32	21.00		25.1
λ ERIDANI.* δ ₀ = - 8° 55' 13".5																				
Jan.	10	2	12.6	15	2	31.6	23.8	17	27.70	17	52.04	55	3.69	-1	15.38	-2.08	+62.76	+4.70	55	13.7
	30	2	38.4	15	3	3.3	38.9	17	51.10	17	29.19	54	40.84	1	19.34	2.19	43.15	7.00		12.2
Feb.	7	2	48.6	15	2	45.0	22.8	17	33.90	17	30.01	54	41.66	1	18.43	2.18	41.71	7.70		12.9
	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	26	2	29.0	15	2	53.7	29.3	17	41.50	17	16.74	54	28.39	1	17.08	2.00	25.33	8.60		13.5
μ AURIGÆ.* δ ₀ = + 38° 19' 48".0																				
Jan.	10	3	46.9	0	3	39.8	24.0	3	31.90	3	55.63	18	52.72	-0	4.28	-0.69	+62.76	-4.40	19	46.1
	12	4	15.9	0	3	36.3	21.2	3	28.75	3	51.43	18	56.92	0	4.21	0.69	61.78	4.60		49.2
	30	4	10.8	0	4	11.8	39.2	3	55.50	3	31.93	19	16.42	0	4.51	0.81	43.15	6.10		48.1
Feb.	7	4	5.2	0	4	11.9	42.1	3	57.00	3	31.37	19	16.98	0	4.46	0.84	41.71	6.50		46.9
	8	4	7.9	0	4	8.9	38.8	3	53.85	3	31.41	19	16.94	0	4.38	0.80	42.81	6.60		48.0
	26	4	36.1	0	3	19.8	49.9	3	4.85	3	14.73	19	33.62	0	4.38	0.41	25.33	7.30		46.9
Mar.	11	4	3.5	0	3	49.8	23.4	3	36.60	3	13.85	19	34.50	0	4.26	0.65	25.32	7.20		47.7

Date.		Right Ascension Wires.										Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.			
1872.		1	2	3	4	5	6	7	8	9	10						11		
		α AURIGÆ.*										$\alpha_0 = 5^h 7^m 14^s.18$							
Jan.	10	25.5	28.6	31.6	37.5	40.4	43.4	46.4	49.1	55.1	58.1	0.0	43.25	+0.38	+30.74	-0.33	m. 7 14.04		
	12	53.6	56.6	59.4	5.3	8.4	11.2	14.3	17.1	23.0	26.2	29.0	11.28	0.40	2.71	0.33	14.06		
	30	49.6	52.7	55.6	1.6	4.4	7.4	10.3	13.3	19.2	22.3	25.1	7.41	0.47	6.34	0.15	14.07		
Feb.	7	46.2	49.1	52.0	58.0	0.8	3.9	6.8	9.7	15.7	18.8	21.6	3.87	0.38	9.85	0.03	14.07		
	8	45.7	48.9	51.6	57.6	0.7	3.5	6.5	9.4	15.3	18.4	21.3	3.54	0.34	10.22	-0.00	14.10		
	26	42.5	45.5	48.4	54.3	57.4	0.3	3.2	6.2	12.3	15.2	18.2	0.32	0.36	13.04	+0.38	14.10		
	27	...	...	...	54.5	57.5	0.4	3.4	6.3	...	...	...	0.42	0.41	12.92	0.41	14.16		
Mar.	3	...	...	...	...	...	0.3	3.4	6.4	12.4	15.3	18.3	0.49	0.34	12.73	0.53	14.09		
	11	41.5	44.4	47.4	53.4	56.3	59.4	2.4	5.2	11.1	14.1	17.0	59.29	0.39	13.74	0.70	14.12		
		β ORIONIS.*										$\alpha_0 = 5^h 8^m 23^s.23$							
Jan.	10	40.5	42.6	44.7	48.8	50.9	53.0	55.0	57.1	1.2	3.4	5.5	52.97	-0.07	+30.74	-0.32	8 23.32		
	30	4.8	6.8	8.9	13.0	15.1	17.1	19.1	21.2	25.5	27.6	29.7	17.16	0.09	6.34	0.19	23.22		
Feb.	7	1.0	3.1	5.2	9.4	11.4	13.5	15.6	17.7	21.8	23.9	26.0	13.51	0.07	9.85	0.09	23.20		
	8	...	...	...	8.9	11.0	13.2	15.2	17.4	...	...	...	13.14	0.07	10.22	-0.08	23.21		
	26	57.6	59.6	1.7	5.9	8.0	10.2	12.3	14.2	18.4	20.5	22.6	10.09	0.07	13.04	+0.20	23.26		
	27	...	...	...	6.0	8.0	10.1	12.2	14.5	...	...	...	10.16	0.08	12.92	0.21	23.21		
Mar.	11	56.6	58.7	0.8	5.0	7.1	9.1	11.2	13.2	17.4	19.6	21.7	9.13	0.08	13.74	0.44	23.23		
		τ ORIONIS.*										$\alpha_0 = 5^h 11^m 23^s.55$							
Jan.	30	5.0	7.0	9.3	13.3	15.3	17.5	19.6	21.6	25.8	27.9	30.1	17.49	-0.07	+ 6.34	-0.19	11 23.57		
Feb.	7	1.4	3.5	5.5	9.8	11.7	13.8	15.8	17.9	22.2	24.3	26.3	13.84	0.06	9.85	-0.09	23.54		
	15	59.8	1.8	3.9	8.2	10.2	12.3	14.4	16.4	20.6	22.5	24.7	12.26	0.06	11.31	+0.01	23.52		
	22	58.1	0.1	2.2	6.2	8.3	10.4	12.5	14.7	18.8	20.8	23.0	10.46	0.06	12.99	0.13	23.52		
	26	57.9	0.0	2.1	6.2	8.3	10.4	12.5	14.6	18.8	20.7	22.8	10.39	0.06	13.04	0.19	23.56		
	27	58.0	0.2	2.3	6.4	8.5	10.5	12.7	14.8	18.8	21.0	23.1	10.57	0.06	12.92	0.20	23.63		
Mar.	11	57.0	59.0	1.1	5.2	7.4	9.4	11.6	13.6	17.7	19.7	21.8	9.41	0.06	13.74	0.43	23.52		
		ν LEPORIS.										$\alpha_0 = 5^h 14^m 2^s.65$							
Jan.	30	44.2	46.3	48.4	52.6	54.8	56.7	58.8	1.0	5.3	7.4	9.5	56.82	-0.12	+ 6.34	-0.25	14 2.79		
Feb.	7	40.5	42.6	44.7	48.8	51.0	53.1	55.2	57.3	1.5	3.6	5.7	53.09	0.10	9.85	0.15	2.69		
	15	39.0	41.1	43.1	47.4	49.5	51.6	53.8	55.8	0.0	2.1	4.2	51.60	0.10	11.31	-0.03	2.78		
	22	37.0	39.1	41.4	45.5	47.5	49.8	51.9	54.0	58.2	0.4	2.5	49.75	0.10	12.99	+0.08	2.72		
	26	37.0	39.1	41.1	45.4	47.5	49.7	51.7	53.9	58.1	0.1	2.3	49.63	0.10	13.04	0.15	2.72		
Mar.	3	37.3	39.3	41.5	45.7	47.8	49.9	52.0	54.2	58.3	0.6	2.6	49.93	0.09	12.73	0.26	2.83		
		m ORIONIS.										$\alpha_0 = 5^h 16^m 6^s.40$							
Jan.	30	47.9	50.0	52.0	56.0	58.1	0.2	2.3	4.5	8.5	10.6	12.8	0.26	+0.01	+ 6.34	-0.15	16 6.46		
Feb.	7	44.2	46.4	48.5	52.6	54.7	56.8	58.6	0.8	4.8	7.0	9.0	56.67	0.01	9.85	-0.06	6.47		
	15	42.6	44.7	46.8	51.0	53.0	55.0	57.0	59.1	3.2	5.4	7.4	55.02	0.01	11.31	+0.04	6.38		
	18	57.4	59.5	1.5	5.7	7.6	9.8	11.8	13.9	18.0	20.0	22.0	9.75	...	...	...	...		
	26	40.9	42.9	45.0	49.0	51.1	53.2	55.3	57.4	1.5	3.5	5.6	53.22	0.01	13.04	0.21	6.48		
	27	40.9	43.0	45.1	49.1	51.2	53.4	55.4	57.5	1.6	3.7	5.7	53.33	0.01	12.92	0.23	6.49		
Mar.	3	41.1	43.0	45.1	49.2	51.3	53.4	55.5	57.6	1.7	3.7	5.8	53.40	0.01	12.73	0.31	6.45		
		β TAURI.*										$\alpha_0 = 5^h 18^m 12^s.09$							
Jan.	30	31.6	53.9	56.4	1.0	3.2	5.6	8.0	10.3	15.0	17.4	19.7	5.65	+0.24	+ 6.34	-0.13	18 12.10		
Feb.	7	48.0	50.4	52.7	57.4	59.6	2.1	4.5	6.8	11.4	13.8	16.2	2.08	0.19	9.85	0.03	12.09		
	8	47.7	50.0	52.2	56.9	59.4	1.7	4.1	6.4	11.1	13.4	15.6	1.68	0.17	10.22	-0.02	12.05		
	15	46.4	48.8	51.1	55.8	58.1	0.5	2.8	5.2	9.9	12.2	14.6	0.49	0.20	11.31	+0.07	12.07		

Date. 1872.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.							
			E.	G.															
<i>α</i> AURIGÆ.* $\delta_0 = + 45^\circ 51' 52''.8$																			
Jan. 10	m. 6	s. 48.3	' 30	' 2	" 11.1	" 55.0	' 32	" 3.05	' 31	" 58.30	' 50	" 50.05	+0	3.68	-0.11	+62.76	-5.60	51	50.8
12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
30	6	45.2	30	2	12.5	37.7	31	55.10	31	34.81	51	13.54	0	3.88	0.24	43.15	8.00	52.3	
Feb. 7	6	59.1	30	1	52.6	21.0	31	36.80	31	32.41	51	15.94	0	3.83	0.08	41.71	8.80	52.6	
8	6	41.9	30	2	8.0	37.0	31	52.50	31	32.76	51	15.59	0	3.77	0.23	42.81	8.90	53.0	
26	6	53.3	30	1	38.0	5.0	31	21.50	31	15.10	51	33.25	0	3.77	+0.03	25.33	9.80	52.6	
27	6	46.9	30	1	41.1	10.3	31	25.70	31	13.36	51	34.99	0	3.72	-0.03	26.34	9.80	55.2	
Mar. 3	7	25.5	30	1	7.0	37.0	30	52.00	31	14.85	51	33.50	0	3.66	0.12	26.27	9.90	53.4	
11	7	4.8	30	1	23.8	55.0	31	9.40	31	14.44	51	33.91	0	3.67	+0.01	25.32	9.70	53.2	
<i>β</i> ORIONIS.* $\delta_0 = - 8^\circ 21' 6''.3$																			
Jan. 10	7	36.1	40	3	27.2	19.0	43	23.10	43	45.48	20	57.13	-1	13.86	-2.17	+62.76	+4.50	21	5.9
30	8	3.6	40	3	54.8	29.0	43	41.90	43	24.24	20	35.89	1	17.73	2.29	43.15	6.90	5.9	
Feb. 7	7	59.2	40	3	52.7	31.0	43	41.85	43	23.28	20	34.93	1	16.86	2.29	41.71	7.50	4.9	
8	8	9.5	40	3	41.7	20.1	43	30.90	43	26.23	20	37.88	1	15.58	2.28	42.81	7.50	5.4	
26	7	51.1	40	3	46.0	23.0	43	34.50	43	9.83	20	21.48	1	15.52	2.05	25.33	8.40	5.3	
27	8	24.5	40	3	6.5	44.7	42	55.60	43	14.17	20	25.82	1	14.54	2.10	26.34	8.40	7.7	
Mar. 11	7	51.2	40	3	45.6	26.8	43	36.20	43	12.96	20	24.61	1	13.50	2.16	25.32	8.60	6.3	
<i>τ</i> ORIONIS.* $\delta_0 = - 6^\circ 59' 5''.4$																			
Jan. 30	11	1.8	20	2	1.7	35.2	21	48.45	21	28.00	58	39.65	-1	14.08	-1.99	+43.15	+6.30	59	6.3
Feb. 7	10	57.9	20	1	59.7	36.6	21	48.15	21	27.44	58	39.09	1	13.28	1.99	41.71	6.80	5.8	
15	10	50.9	20	2	12.1	49.7	22	0.90	21	33.02	58	44.67	1	10.69	1.89	43.73	7.40	6.1	
22	10	52.8	20	1	46.0	21.8	21	33.90	21	10.85	58	22.50	1	10.00	1.87	24.14	7.70	2.5	
26	10	50.4	20	1	51.3	27.6	21	39.45	21	13.40	58	25.05	1	11.97	1.87	25.33	7.90	5.7	
27	10	51.8	20	1	51.9	28.9	21	40.40	21	15.92	58	27.57	1	11.06	1.93	26.34	7.90	6.3	
Mar. 11	10	50.1	20	1	51.1	31.9	21	41.50	21	16.36	58	28.01	1	10.04	1.92	25.32	8.10	6.5	
<i>ν</i> LEPORIS. $\delta_0 = - 12^\circ 26' 55''.0$																			
Jan. 30	13	41.2	45	4	34.6	11.1	49	22.85	49	2.86	26	14.51	-1	30.12	-2.47	+43.15	+7.60	26	56.3
Feb. 7	13	37.0	45	4	35.2	14.2	49	24.70	49	4.07	26	15.72	1	29.13	2.47	41.71	8.41	57.2	
15	14	3.5	45	4	4.6	43.8	48	54.20	49	8.45	26	20.10	1	25.99	2.18	43.73	9.04	55.5	
22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
26	13	29.8	45	4	26.1	4.7	49	15.40	48	50.02	26	1.67	1	27.55	2.18	25.33	9.59	56.5	
Mar. 3	13	34.9	45	4	22.2	3.2	49	12.70	48	53.48	26	5.13	1	25.05	2.32	26.27	9.76	56.5	
<i>m</i> ORIONIS. $\delta_0 = + 3^\circ 25' 8''.4$																			
Jan. 30	15	44.5	55	3	6.9	38.2	57	52.55	57	31.78	25	16.57	-0	51.44	-1.87	+43.15	+3.56	25	9.9
Feb. 7	15	41.8	55	3	4.5	39.1	57	51.80	57	32.28	25	16.07	0	50.90	1.87	41.71	3.97	9.0	
15	15	29.9	55	3	22.7	57.2	58	9.95	57	37.08	25	11.27	0	49.12	1.72	43.73	4.31	8.5	
18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
26	15	35.7	55	2	54.2	27.0	57	40.60	57	17.68	25	30.67	0	49.98	1.68	25.33	4.63	9.0	
27	15	34.8	55	2	56.3	31.2	57	43.75	57	19.52	25	28.83	0	49.35	1.76	26.34	4.65	8.7	
Mar. 3	15	38.1	55	2	52.4	27.4	57	39.90	57	19.86	25	28.49	0	48.57	1.76	26.27	4.73	9.2	
<i>β</i> TAURI.* $\delta_0 = + 28^\circ 29' 47''.1$																			
Jan. 30	17	45.6	50	4	2.3	28.1	53	45.20	53	22.79	29	25.56	-0	15.74	-1.13	+43.15	-3.20	29	48.6
Feb. 7	17	39.5	50	4	3.4	33.2	53	48.30	53	22.24	29	26.11	0	15.57	1.17	41.71	3.50	47.6	
8	17	39.6	50	4	4.4	34.0	53	49.20	53	23.71	29	24.64	0	15.31	1.16	42.81	3.50	47.5	
15	17	48.1	50	3	53.8	24.0	53	38.90	53	24.60	29	23.75	0	15.03	0.84	43.73	3.80	47.8	

Date. 1872.	Right Ascension Wires.											Seconds of Transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
β TAURI.* $a_0 = 5^h 18^m 12^s.09$																
Feb. 18	45.7	48.0	50.4	55.0	57.4	59.8	2.1	4.4	9.1	11.4	13.8	59.74	+0.21	+12.01	+0.13	18 12.09
26	44.5	46.9	49.3	53.9	56.3	58.6	0.9	3.2	7.8	10.3	12.7	58.58	0.18	13.04	0.27	12.07
27	44.7	47.0	49.3	54.0	56.3	58.7	1.0	3.4	8.0	10.4	12.7	58.68	0.21	12.92	0.29	12.10
Mar. 3	44.7	47.1	49.5	54.0	56.4	58.7	1.0	3.5	8.1	10.5	12.9	58.76	0.17	12.73	0.38	12.04
ψ ORIONIS. $a_0 = 5^h 20^m 7^s.95$																
Jan. 30	49.5	51.5	53.5	57.6	59.8	1.8	3.9	6.0	10.1	12.1	14.1	1.81	+0.01	+ 6.34	-0.17	20 7.99
Feb. 7	...	...	...	54.0	56.0	58.2	0.2	2.3	...	...	...	58.14	0.00	9.85	0.08	7.91
8	45.3	47.4	49.4	53.6	55.7	57.8	59.9	2.0	6.0	8.1	10.2	57.76	0.00	10.22	-0.07	7.91
26	42.3	44.3	46.4	50.6	52.7	54.7	56.8	58.8	2.9	5.0	7.0	54.68	0.00	13.04	+0.19	7.91
27	42.4	44.5	46.6	50.7	52.8	54.8	56.8	58.9	2.9	5.0	7.2	54.78	0.00	12.92	0.21	7.91
Mar. 3	...	...	...	50.8	52.8	54.8	56.9	59.0	...	...	...	54.86	0.00	12.73	0.30	7.89
11	41.4	43.4	45.5	49.6	51.7	53.8	55.7	57.8	2.0	4.0	6.1	53.73	0.00	13.74	0.43	7.90
GROOMBRIDGE 966.* $a_0 = 5^h 22^m 37^s.37$																
Jan. 30	43.2	51.4	59.2	15.3	22.7	30.8	38.6	46.8	2.7	10.6	18.4	30.88	+1.72	+ 6.34	-1.56	22 37.38
Feb. 5	40.2	47.9	55.8	12.0	19.5	27.6	35.3	43.6	59.5	7.3	15.7	27.67	1.65	9.16	1.25	37.23
7	...	...	...	11.4	19.4	27.1	35.0	43.0	...	...	...	27.18	1.38	9.85	1.14	37.27
8	39.0	47.5	55.0	11.0	19.0	26.7	34.6	42.4	58.3	6.3	14.3	26.74	1.25	10.22	1.08	37.13
18	36.4	45.0	52.4	8.8	16.2	24.3	32.2	40.1	55.8	4.0	11.9	24.28	1.49	12.01	-0.34	37.44
26	35.1	42.9	50.8	6.6	14.5	22.7	30.6	38.4	54.4	2.3	10.4	22.61	1.32	13.04	+0.11	37.08
27	35.3	43.3	50.9	6.6	14.6	22.6	30.7	38.5	54.5	2.2	10.4	22.69	1.49	12.92	0.18	37.28
Mar. 3	35.2	42.6	50.7	6.7	14.5	22.5	30.6	38.8	54.2	2.1	10.3	22.56	1.26	12.73	0.55	37.10
11	33.4	41.2	49.3	5.4	13.2	21.2	28.7	36.8	52.9	1.0	8.6	21.06	1.42	13.74	1.15	37.37
δ ORIONIS.* $a_0 = 5^h 25^m 28^s.12$																
Feb. 8	5.6	7.7	9.7	14.0	16.0	18.1	20.1	22.1	26.3	28.3	30.3	18.02	-0.02	+10.22	-0.11	25 28.11
15	4.5	6.5	8.7	12.8	14.8	16.8	18.8	21.0	25.0	27.1	29.2	16.84	0.02	11.31	-0.02	28.11
18	3.6	5.7	7.7	12.0	14.0	16.0	18.0	20.2	24.3	26.3	28.4	16.02	0.02	12.01	+0.02	28.03
22	2.7	4.8	6.8	10.9	12.9	15.0	17.0	19.0	23.2	25.3	27.4	15.00	0.02	12.99	0.08	28.05
26	2.6	4.7	6.7	10.8	12.9	15.0	17.0	19.0	23.2	25.2	27.3	14.95	0.02	13.04	0.15	28.12
27	2.6	4.7	6.8	10.9	13.0	15.0	17.1	19.1	23.3	25.4	27.4	15.03	0.02	12.92	0.17	28.10
Mar. 3	2.7	4.8	6.8	11.0	13.0	15.0	17.1	19.3	23.3	25.4	27.4	15.07	0.02	12.73	0.25	28.03
α LEPORIS. $a_0 = 5^h 27^m 5^s.14$																
Feb. 7	42.7	44.9	47.0	51.4	53.5	55.6	57.8	0.1	4.4	6.5	8.7	55.69	-0.14	+ 9.86	-0.26	27 5.15
15	...	...	...	49.8	52.0	54.2	56.3	58.5	...	...	...	54.16	0.14	11.31	0.14	5.19
22	39.5	41.4	43.7	48.0	50.2	52.3	54.5	56.6	1.0	3.0	5.3	52.32	0.14	12.99	-0.02	5.15
26	39.2	41.3	43.4	47.8	50.0	52.3	54.4	56.5	0.9	3.0	5.2	52.18	0.14	13.04	+0.05	5.13
27	39.3	41.5	43.6	48.0	50.2	52.4	54.6	56.5	1.0	3.1	5.4	52.33	0.15	12.92	0.07	5.17
Mar. 3	39.3	41.5	43.8	48.0	50.3	52.5	54.7	56.7	1.0	3.1	5.5	52.40	0.13	12.73	0.16	5.16
11	38.2	40.4	42.6	46.8	49.1	51.1	53.4	55.5	59.9	2.0	4.1	51.19	0.14	13.74	0.32	5.11
ϵ ORIONIS.* $a_0 = 5^h 29^m 43^s.16$																
Feb. 5	21.9	24.0	26.0	30.1	32.1	34.2	36.2	38.3	42.5	44.5	46.6	34.22	-0.02	+ 9.16	-0.16	29 43.20
7	21.1	23.3	25.3	29.4	31.5	33.5	35.5	37.6	41.8	43.8	45.9	33.52	0.02	9.86	0.14	43.22
8	20.8	23.0	25.0	29.0	31.1	33.1	35.2	37.3	41.4	43.4	45.6	33.17	0.02	10.22	-0.13	43.24
18	18.8	20.8	22.9	27.0	29.0	31.1	33.3	35.3	39.4	41.5	43.5	31.15	0.02	12.01	+0.00	43.14
26	17.6	19.7	21.8	25.9	28.0	30.0	32.1	34.2	38.3	40.4	42.5	30.05	0.02	13.04	0.13	43.20
27	17.6	19.6	21.9	25.8	27.9	30.0	32.1	34.2	38.3	40.5	42.5	30.03	0.02	12.92	0.15	43.08
Mar. 3	17.9	19.9	22.0	26.2	28.1	30.3	32.3	34.3	38.5	40.6	42.6	30.25	0.02	12.73	0.23	43.19

Date. 1872.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.	
			E.	G.									
β TAURI.* $\delta_0 = + 28^\circ 29' 47''.1$													
Feb. 18	17	50	4	4.9	37.8	53 51.35	53 25.98	29 22.37	-0 14.98	-0.94	+45.00	-3.90	29 47.4
26	17	50	3	47.2	15.6	53 31.40	53 5.10	29 43.25	0 15.29	0.94	25.33	4.00	48.2
27	17	50	3	45.3	14.9	53 30.10	53 6.00	29 42.35	0 15.10	1.01	26.34	4.00	48.5
Mar. 3	17	50	3	40.1	15.3	53 27.70	53 5.55	29 42.80	0 14.86	0.99	26.27	4.00	49.1
ψ ORIONIS. $\delta_0 = + 2^\circ 58' 57''.2$													
Jan. 30	19	41.7	20 4	22.3	53.2	24 7.75	23 41.41	59 6.94	-0 52.26	-2.03	+43.15	+3.59	58 59.4
Feb. 7	19	44.1	20 4	14.0	48.1	24 1.05	23 42.70	59 5.65	0 51.71	2.02	41.71	4.03	57.7
8	19	40.1	20 4	19.3	55.3	24 7.30	23 44.10	59 4.25	0 50.83	2.03	42.81	4.08	58.3
26	19	39.4	20 4	1.7	34.7	23 48.20	23 28.15	59 20.20	0 50.77	1.77	25.33	4.71	57.7
27	19	35.7	20 4	7.2	41.9	23 54.55	23 29.52	59 18.83	0 50.13	1.89	26.34	4.73	57.9
Mar. 3	19	53.6	20 3	44.8	18.8	23 31.80	23 30.36	59 17.99	0 49.34	1.85	26.27	4.81	57.9
11	19	46.7	20 3	50.2	28.0	23 39.10	23 29.93	59 18.42	0 49.42	1.86	25.32	4.86	57.3
GROOMBRIDGE 966.* $\delta_0 = + 74^\circ 57' 12''.6$													
Jan. 30	21	45.3	25 2	19.6	40.8	27 0.20	26 44.67	56 3.68	+0 40.72	+0.72	+43.15	-13.60	57 14.7
Feb. 5	21	51.7	25 2	9.6	36.2	26 52.90	26 40.63	56 7.72	0 38.60	0.83	42.19	14.90	14.4
7	21	29.6	25 2	21.2	45.7	27 3.45	26 43.82	56 4.53	0 40.25	0.56	41.71	15.20	11.8
8	21	31.7	25 2	18.1	44.0	27 1.05	26 42.31	56 6.04	0 39.56	0.59	42.81	15.40	13.6
18	21	27.2	25 2	16.8	46.1	27 1.45	26 41.99	56 6.36	0 38.72	0.68	45.03	16.90	13.9
26	22	2.3	25 1	49.3	13.0	26 31.15	26 24.23	56 24.12	0 39.51	1.09	25.33	17.70	12.3
27	21	21.6	25 2	2.7	25.6	26 44.15	26 23.33	56 25.02	0 39.02	0.64	26.34	17.80	13.2
Mar. 3	21	30.2	25 1	56.3	24.0	26 40.15	26 22.29	56 26.06	0 38.41	0.72	26.27	18.10	13.4
11	21	56.8	25 1	45.1	15.0	26 30.05	26 21.77	56 26.58	0 38.46	1.04	25.32	18.30	13.1
δ ORIONIS.* $\delta_0 = - 0^\circ 23' 46''.6$													
Feb. 8	24	59.2	45 1	59.6	35.0	46 47.30	46 22.63	23 34.28	-0 57.25	-1.84	+42.81	+5.00	23 45.6
15	24	58.2	45 2	3.0	39.0	46 51.00	46 26.59	23 38.24	0 56.22	1.74	43.73	5.40	47.1
18	25	57.2	45 2	4.0	42.2	46 53.10	46 28.43	23 40.08	0 56.03	1.74	45.03	5.50	47.3
22	24	55.9	45 1	43.3	17.1	46 30.20	46 5.14	23 16.79	0 55.63	1.72	24.14	5.70	44.3
26	24	58.5	45 1	41.4	15.3	46 28.35	46 6.83	23 18.48	0 57.18	1.72	25.33	5.80	46.2
27	24	55.8	45 1	45.5	21.1	46 33.30	46 8.10	23 19.75	0 56.47	1.76	26.34	5.80	45.8
Mar. 3	24	59.3	45 1	40.6	17.3	46 28.95	46 8.22	23 19.87	0 55.58	1.76	26.27	5.90	45.0
α LEPORIS. $\delta_0 = - 17^\circ 54' 56''.5$													
Feb. 7	26	37.9	15 2	16.8	54.9	17 5.85	16 43.62	53 55.27	-1 50.07	-2.27	+41.71	+9.34	54 56.6
15	27	4.8	15 1	46.0	24.8	16 35.40	16 48.63	54 0.28	1 46.27	2.15	43.73	10.12	54.8
22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
26	26	37.7	15 2	0.0	37.0	16 48.50	16 30.39	53 42.04	1 48.01	2.16	25.33	10.81	56.1
27	26	37.3	15 2	4.2	42.0	16 53.10	16 34.37	53 46.02	1 46.70	2.21	26.34	10.86	57.7
Mar. 3	26	35.1	15 2	6.0	46.0	16 56.00	16 34.40	53 46.05	1 45.02	2.20	26.27	11.04	56.0
11	26	31.6	15 2	8.2	49.9	16 59.05	16 34.57	53 46.22	1 45.12	2.19	25.32	11.16	57.0
ϵ ORIONIS.* $\delta_0 = - 1^\circ 17' 9''.5$													
Feb. 5	29	11.7	40 0	25.6	3.0	40 14.30	39 44.78	16 56.43	-0 57.64	-1.66	+42.19	+4.80	17 8.7
7	29	14.0	40 0	20.0	57.0	40 8.50	39 42.92	16 54.57	1 0.11	1.64	41.71	5.00	9.6
8	29	13.4	40 0	21.9	59.4	40 10.65	39 44.67	16 56.32	0 59.06	1.66	42.81	5.00	9.2
18	29	14.1	40 0	24.2	1.2	40 12.70	39 50.40	17 2.05	0 57.80	1.64	45.03	5.50	11.0
26	29	15.1	40 0	1.3	36.7	39 49.00	39 29.45	16 41.10	0 58.98	1.97	25.33	5.80	10.9
27	29	12.0	40 0	5.3	42.7	39 54.00	39 30.38	16 42.03	0 58.27	2.12	26.34	5.80	10.3
Mar. 3	29	13.9	40 0	6.5	43.9	39 55.20	39 33.81	16 45.46	0 57.35	2.12	26.27	5.90	12.8

Date. 1872.		Right Ascension Wires.										Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
		1	2	3	4	5	6	7	8	9	10						11
		σ ORIONIS.* $a_0 = 5^h 32^m 19^s.22$															
Feb.	5	58.0	0.1	2.1	6.3	8.3	10.3	12.4	14.5	18.6	20.6	22.7	10.35	-0.04	+ 9.17	-0.19	32 19.29
	7	57.2	59.3	1.4	5.5	7.5	9.6	11.7	13.7	17.8	19.8	22.0	9.59	0.03	9.86	0.17	19.25
	8	56.9	59.0	1.1	5.2	7.2	9.4	11.3	13.4	17.5	19.6	21.7	9.30	0.03	10.23	0.16	19.34
	18	54.9	57.0	59.1	3.2	5.3	7.4	9.3	11.4	15.5	17.6	19.7	7.31	0.04	12.02	-0.02	19.27
	26	53.8	55.9	58.0	2.0	4.1	6.2	8.3	10.3	14.3	16.5	18.5	6.17	0.03	13.04	+0.10	19.28
	27	53.9	56.0	58.0	2.3	4.2	6.1	8.4	10.4	14.6	16.6	18.7	6.29	0.04	12.92	0.12	19.29
Mar.	3	54.0	56.0	58.2	2.4	4.4	6.4	8.6	10.6	14.6	16.7	18.8	6.43	0.03	12.73	0.20	19.33
		$\circ$ AURIGÆ.* $a_0 = 5^h 35^m 59^s.09$															
Jan.	31	33.0	36.1	39.2	45.6	48.8	52.0	55.1	58.5	4.7	7.9	11.3	52.02	+0.58	+ 6.91	-0.39	35 59.12
Feb.	5	30.7	33.8	36.9	43.4	46.6	49.8	52.9	56.2	2.4	5.6	9.0	49.76	0.52	9.17	0.32	59.13
	7	30.1	33.2	36.4	42.8	45.9	49.1	52.3	55.6	2.0	5.1	8.2	49.15	0.43	9.86	0.29	59.15
	8	29.6	32.8	35.9	42.4	45.5	48.7	51.9	55.0	1.4	4.6	7.8	48.69	0.39	10.23	-0.27	59.04
	26	...	...	...	39.2	42.3	45.6	48.7	52.0	...	...	...	45.56	0.41	13.04	+0.13	59.14
Mar.	3	...	...	...	39.3	42.6	45.8	49.0	52.2	...	...	...	45.78	0.40	12.73	+0.27	59.18
		ω DRACONIS L. C.* $a_0 = 17^h 37^m 42^s.11$															
Feb.	5	...	...	...	20.7	26.2	31.8	37.8	43.2	...	...	...	31.94	-1.15	+ 9.17	+2.24	37 42.20
	8	56.6	2.3	8.0	19.4	25.0	30.7	36.2	42.8	53.5	58.8	5.0	30.75	0.87	10.23	2.07	42.18
	18	55.7	1.4	7.1	18.3	24.2	29.6	35.8	41.0	52.6	57.9	4.0	29.78	1.04	12.02	1.51	42.27
	26	55.0	0.5	6.3	17.7	23.5	29.0	34.7	40.4	52.0	57.5	3.4	29.09	0.92	13.04	1.02	42.23
	27	55.2	1.4	7.1	18.3	24.0	30.0	35.4	41.0	52.8	58.2	4.0	29.76	1.03	12.92	.96	42.61
Mar.	11	55.0	0.6	6.4	17.9	23.5	29.0	34.8	40.7	52.0	57.7	3.3	29.17	0.99	13.74	.12	42.04
		ζ LEPORIS. $a_0 = 5^h 41^m 9^s.44$															
Feb.	2	49.0	51.3	53.3	57.7	59.7	2.0	4.1	6.1	10.4	12.5	14.7	1.89	-0.15	+ 8.03	-0.35	41 9.42
	8	46.9	48.9	51.1	55.5	57.6	59.7	1.7	3.8	8.1	10.2	12.3	59.62	0.11	10.23	0.28	9.46
	18	44.8	47.0	49.1	53.4	55.4	57.6	59.7	1.8	6.1	8.3	10.3	57.59	0.12	12.02	0.14	9.35
	22	43.7	45.9	48.0	52.1	54.5	56.7	58.7	0.9	5.0	7.0	9.5	56.55	0.12	13.00	-0.08	9.35
Mar.	3	43.9	46.1	48.2	52.5	54.5	56.7	58.7	1.0	5.2	7.3	9.4	56.68	0.11	12.73	+0.11	9.41
	11	42.7	44.7	47.0	51.3	53.4	55.4	57.6	59.7	4.0	6.1	8.3	55.47	0.12	13.74	+0.26	9.35
		ν AURIGÆ.* $a_0 = 5^h 42^m 37^s.08$															
Jan.	31	14.3	16.9	19.5	24.7	27.4	30.2	32.7	35.5	40.7	43.5	46.0	30.13	+0.39	+ 6.91	-0.30	42 37.13
Feb.	5	12.0	14.6	17.3	22.6	25.2	27.8	30.6	33.3	38.6	41.2	43.8	27.91	0.35	9.17	0.24	37.19
	8	...	...	...	21.7	24.3	26.8	29.5	32.2	...	...	...	26.90	0.27	10.23	-0.20	37.20
	22	7.8	10.5	13.4	18.8	21.3	23.8	26.6	29.4	34.4	37.2	39.8	23.91	0.30	13.00	+0.04	37.25
	26	7.7	10.5	13.0	18.5	21.0	23.7	26.3	29.0	34.4	37.0	39.7	23.71	0.28	13.04	0.12	37.15
	27	7.8	10.6	13.1	18.6	21.1	23.7	26.5	29.1	34.4	37.0	39.7	23.78	0.32	12.92	0.14	37.16
Mar.	3	...	...	...	18.5	21.3	23.9	26.7	29.2	...	...	...	23.92	0.27	12.73	0.23	37.15
		ψ^1 DRACONIS AUST. L.C.* $a_0 = 17^h 44^m 13^s.06$															
Jan.	31	...	...	...	...	...	...	11.5	18.1	31.8	38.6	45.6	4.82	-1.55	+ 6.91	+2.89	44 13.07
Feb.	2	...	...	...	50.8	57.2	3.8	10.8	17.9	...	...	...	4.10	1.58	8.03	2.78	13.33
	8	...	...	...	48.4	54.8	1.8	8.2	14.6	...	...	...	1.56	1.05	10.23	2.42	13.16
	18	20.2	26.8	33.8	47.2	54.0	0.6	7.3	14.1	27.7	34.6	41.2	0.68	1.25	12.02	1.79	13.24
Mar.	11	19.9	26.7	33.4	46.9	53.8	0.4	7.1	13.7	27.3	34.0	40.9	0.37	1.19	13.74	0.19	13.11

Date. 1871-2.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean Reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.								
			E.	G.																
σ ORIONIS.* $\delta_0 = -2^\circ 40' 33''.9$																				
Feb.	5	31	51.3	0	3	44.7	22.5	3	33.80	3	8.76	40	20.41	-1	0.50	-2.12	+42.19	+5.20	40	35.6
	7	31	50.2	0	3	41.6	19.4	3	30.50	3	5.07	40	16.72	1	3.10	2.11	41.71	5.30		34.9
	8	31	50.6	0	3	44.5	20.8	3	32.65	3	8.13	40	19.78	1	2.00	2.12	42.81	5.40		35.7
	18	31	48.8	0	3	47.1	25.6	3	36.35	3	12.10	40	23.75	1	0.68	1.92	45.03	6.00		35.3
	26	31	48.5	0	3	26.1	2.4	3	14.25	2	51.05	40	2.70	1	1.92	1.89	25.33	6.10		35.1
	27	31	47.2	0	3	28.6	7.0	3	17.80	2	52.76	40	4.41	1	1.16	1.99	26.34	6.30		34.9
Mar.	3	31	48.1	0	3	27.9	6.3	3	17.10	2	53.11	40	4.76	1	0.21	2.00	26.27	6.40		34.3
$\circ$ AURIGÆ.* $\delta_0 = +49^\circ 46' 0''.3$																				
Jan.	31	35	17.0	35	3	16.6	40.7	37	58.65	37	28.98	45	19.37	+0	8.19	-0.41	+42.06	-8.50	45	60.7
Feb.	5	36	24.7	35	2	14.0	41.6	36	57.80	37	27.38	45	20.97	0	7.84	0.27	42.19	9.10		61.6
	7	35	15.1	35	3	14.2	41.1	37	57.65	37	28.68	45	19.67	0	8.18	0.38	41.71	9.40		59.8
	8	36	4.6	35	2	30.9	58.9	37	14.90	37	28.38	45	19.97	0	8.04	0.05	42.81	9.50		61.3
	26	35	22.5	35	2	46.8	12.0	37	29.40	37	9.82	45	38.53	0	8.02	0.00	25.33	11.10		60.8
Mar.	3	35	17.3	35	2	49.4	18.0	37	33.70	37	9.54	45	38.81	0	7.81	0.17	26.27	11.40		61.3
ω DRACONIS L. C.* $\delta_0 = +111^\circ 11' 0''.1$																				
Feb.	5	37	54.9	15	0	18.8	41.3	15	0.05	14	49.13	7	59.22	+2	34.53	+2.29	+42.19	-17.70	10	60.5
	8	36	46.5	10	4	53.0	14.7	14	33.85	14	54.86	7	53.49	2	38.41	1.98	42.81	18.20		58.5
	18	36	50.5	10	4	47.8	13.5	14	30.65	14	49.29	7	59.06	2	35.01	2.17	45.03	20.40		60.9
	26	38	7.9	15	0	14.8	32.7	14	53.75	14	35.35	8	13.00	2	38.20	2.13	25.33	21.60		57.1
	27	36	52.1	10	4	34.5	54.9	14	14.70	14	32.58	8	15.77	2	36.29	2.04	26.34	21.70		58.7
Mar.	11	37	49.4	15	0	54.5	19.9	15	37.20	14	27.62	8	20.73	2	33.94	2.21	25.32	22.70		59.5
ζ LEPORIS. $\delta_0 = -14^\circ 52' 18''.1$																				
Feb.	2	40	41.7	10	4	54.1	30.3	14	42.20	14	16.58	51	28.23	-1	39.26	-2.55	+41.76	+7.54		20.7
	8	40	40.9	10	4	53.1	31.3	14	42.20	14	18.48	51	30.13	1	36.05	2.55	42.81	8.27		17.6
	18	40	44.1	10	4	51.8	32.0	14	41.90	14	24.78	51	36.43	1	33.99	2.29	45.03	9.20		18.5
	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mar.	3	40	39.2	10	4	38.6	19.0	14	28.80	14	6.60	51	18.25	1	33.30	2.40	26.27	9.95		17.7
	11	40	38.0	10	4	35.5	17.7	14	26.60	14	4.40	51	16.05	1	33.34	2.39	25.32	10.11		16.3
ν AURIGÆ.* $\delta_0 = +39^\circ 6' 30''.4$																				
Jan.	31	42	6.9	15	2	32.2	59.1	17	15.65	16	52.02	5	56.33	-0	3.61	-0.58	+42.06	-5.80	60	28.4
Feb.	5	42	6.5	15	2	28.0	59.6	17	13.80	16	52.01	5	56.34	0	3.46	0.55	42.19	6.30		28.2
	8	42	36.8	15	1	56.6	27.1	16	41.85	16	51.93	5	56.42	0	3.54	0.39	42.81	6.50		28.8
	22	42	35.8	15	1	37.9	4.9	16	21.40	16	33.52	6	14.83	0	3.44	0.27	24.14	7.40		27.9
	26	42	1.1	15	2	13.1	41.5	16	57.30	16	34.28	6	14.07	0	3.54	0.41	25.33	7.60		27.8
	27	42	3.1	15	2	10.4	40.7	16	55.55	16	34.47	6	13.88	0	3.49	0.45	26.34	7.70		29.6
Mar.	3	42	32.6	15	1	40.8	12.1	16	26.45	16	35.31	6	13.04	0	3.44	0.31	26.27	7.80		27.8
ψ^1 DRACONIS AUSTR. L. C.* $\delta_0 = +107^\circ 47' 20''.9$																				
Jan.	31	44	26.2	35	3	43.2	2.2	38	22.70	38	14.12	44	34.23	+2	17.25	+1.77	+42.06	-15.90	47	19.4
Feb.	2	44	24.8	35	3	44.3	5.2	38	24.75	38	16.45	44	31.90	2	19.07	1.77	41.76	16.40		18.1
	8	44	14.5	35	3	33.6	55.7	38	14.65	38	9.48	44	38.87	2	14.56	1.75	42.81	19.10		18.9
	18	43	15.6	35	3	2.9	29.0	37	45.95	38	4.03	44	44.32	2	11.67	2.27	45.03	20.20		23.1
Mar.	11	43	15.4	35	2	40.9	6.3	37	23.60	37	41.64	45	6.71	2	10.14	2.22	25.32	22.70		21.7

Date.		Right Ascension Wires.										Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.		
1872.		1	2	3	4	5	6	7	8	9	10							11
β COLUMBÆ. $a_0 = 5^h 46^m 26^s.88$																		
Jan.	31	6.0	8.2	10.6	16.0	18.5	21.2	23.8	26.2	31.6	33.9	36.5	21.14	-0.39	+ 6.92	-0.73	46	26.94
Feb.	5	...	...	...	13.4	16.3	18.8	21.2	23.6	...	...	...	18.66	0.35	9.17	0.65	26.83	
	8	2.4	5.1	7.5	12.6	15.1	17.6	20.2	22.7	27.9	30.4	32.8	17.66	0.27	10.23	0.60	27.02	
	22	59.3	1.8	4.4	9.4	12.2	14.6	17.1	19.8	24.8	27.1	29.9	14.58	0.31	13.00	0.32	26.95	
α ORIONIS.* $a_0 = 5^h 48^m 14^s.55$																		
Jan.	30	56.0	58.1	0.0	4.3	6.3	8.3	10.4	12.5	16.5	18.7	20.6	8.34	+0.05	+ 6.39	-0.26	48	14.52
	31	55.5	57.6	59.6	3.8	5.8	7.9	10.2	12.1	16.3	18.4	20.4	7.96	0.05	6.92	0.25	14.68	
Feb.	2	54.2	56.3	58.4	2.5	4.5	6.6	8.7	10.9	15.0	17.2	19.3	6.69	0.05	8.04	0.24	14.54	
	5	...	...	...	...	3.3	5.6	7.7	9.8	13.8	16.0	18.0	5.55	0.04	9.17	0.21	14.55	
	8	52.1	54.2	56.3	0.4	2.5	4.5	6.6	8.7	12.8	15.0	17.0	4.55	0.03	10.23	0.18	14.63	
	18	50.0	52.1	54.2	58.4	0.4	2.5	4.5	6.6	10.9	12.8	15.0	2.49	0.04	12.02	0.06	14.49	
β AURIGÆ.* $a_0 = 5^h 50^m 8^s.45$																		
Jan.	30	44.4	47.4	50.5	56.4	59.0	2.0	4.9	7.7	13.6	16.5	19.4	1.98	+0.46	+ 6.39	-0.40	50	8.43
	31	43.8	46.8	49.7	55.6	58.5	1.5	4.3	7.2	13.2	16.1	18.9	1.42	0.49	6.92	0.39	8.44	
Feb.	1	43.2	46.2	49.1	54.9	57.8	0.7	3.5	6.5	12.3	15.3	18.2	0.70	0.48	7.48	0.38	8.28	
	2	...	...	...	54.4	57.3	0.2	3.1	6.0	...	...	...	0.20	0.50	8.04	0.37	8.37	
	4	...	...	...	53.6	56.6	59.4	2.3	5.1	...	...	...	59.40	0.42	8.77	0.34	8.25	
	5	41.5	44.5	47.5	53.3	56.2	59.1	2.0	5.0	10.8	13.7	16.7	59.12	0.44	9.17	0.33	8.40	
θ AURIGÆ.* $a_0 = 5^h 50^m 59^s.59$																		
Feb.	8	33.9	36.5	39.0	44.2	46.7	49.3	51.8	54.5	59.7	2.3	4.9	49.35	+0.25	+10.23	-0.24	50	59.59
	15	32.6	35.2	37.7	43.0	45.5	48.2	50.7	53.3	58.4	1.1	3.5	48.11	0.28	11.31	0.13	59.57	
	22	31.0	33.6	36.0	41.0	43.8	46.5	49.0	51.7	56.7	59.2	1.9	46.40	0.28	13.00	-0.01	59.67	
Mar.	3	31.0	33.6	36.0	41.2	43.8	46.4	49.0	51.6	56.8	59.4	1.8	46.42	0.25	12.73	+0.17	59.57	
	19	29.2	31.7	34.3	39.4	42.0	44.6	47.2	49.8	54.9	57.5	0.2	44.62	0.27	14.22	+0.50	59.61	
γ COLUMBÆ. $a_0 = 5^h 52^m 59^s.89$																		
Jan.	30	39.6	42.3	44.7	50.0	52.3	54.8	57.2	59.8	5.0	7.4	9.9	54.82	-0.36	+ 6.39	-0.76	52	60.09
	31	39.3	41.8	44.2	49.1	51.6	54.3	57.0	59.5	4.5	7.1	9.5	54.35	0.38	6.92	0.74	60.15	
Feb.	5	36.7	39.2	41.7	46.9	49.2	51.8	54.3	56.8	2.0	4.5	7.0	51.83	0.35	9.17	0.67	59.98	
	22	32.5	35.1	37.5	42.5	45.0	47.6	50.0	52.4	57.3	0.3	2.8	47.55	0.30	13.00	0.35	59.90	
Mar.	3	32.5	35.1	37.5	42.6	45.1	47.7	50.4	52.9	57.9	0.3	2.9	47.72	0.27	12.73	0.12	60.06	
μ ORIONIS. $a_0 = 5^h 55^m 20^s.48$																		
Jan.	30	1.8	4.0	6.1	10.3	12.2	14.3	16.4	18.5	22.8	24.8	26.9	14.37	+0.07	+ 6.39	-0.29	55	20.54
	31	1.3	3.3	5.5	9.8	11.8	13.8	15.9	18.0	22.3	24.3	26.4	13.85	0.07	6.92	0.28	20.56	
Feb.	2	0.2	2.3	4.4	8.5	10.5	12.6	14.7	16.9	21.0	23.2	25.2	12.68	0.07	8.04	0.26	20.53	
	5	59.0	1.1	3.2	7.3	9.5	11.5	13.5	15.7	19.8	22.0	24.1	11.52	0.06	9.17	-0.23	20.52	
	14	54.6	56.7	58.8	2.9	5.0	7.1	9.3	11.3	15.5	17.6	19.7	7.14	0.05	12.95	+0.30	20.44	
	19	53.3	55.4	57.5	1.7	3.7	5.9	8.0	10.0	14.2	16.2	18.4	5.85	0.05	14.22	+0.39	20.51	
PI. V. 327. $a_0 = 5^h 58^m 6^s.28$																		
Jan.	30	46.6	49.2	51.3	55.8	58.1	0.5	2.8	5.0	9.7	12.1	14.3	0.49	-0.25	+ 6.39	-0.60	58	6.03
Feb.	22	39.8	42.1	44.5	49.2	51.3	53.8	56.0	58.3	2.8	5.1	7.5	53.67	0.21	13.00	0.26	6.20	
	26	39.8	42.0	44.3	49.0	51.3	53.6	55.9	58.4	2.9	5.1	7.4	53.61	0.20	13.04	-0.18	6.27	
Mar.	14	39.6	41.8	44.2	48.7	51.0	53.3	55.7	57.9	2.4	4.8	7.1	53.32	0.20	12.95	+0.17	6.24	
	19	38.2	40.4	42.8	47.4	49.7	52.0	54.3	56.5	1.2	3.5	5.8	51.98	0.20	14.22	+0.28	6.28	

Date. 1872.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.		
			E.	G.										
β COLUMBÆ. $\delta_0 = -35^\circ 49' 4''.9$														
Jan. 31	m.	s.	'	'	"	"	'	"	'	"	"	"	'	"
Feb. 5														
8														
22														
α ORIONIS.* $\delta_0 = +7^\circ 22' 50''.4$														
Jan. 30	47 53.1	60 0	27.6	0.3	60 13.95	59 54.17	22 54.18	-0 44.56	-1.40	+41.68	+2.10	22 52.0		
31	47 54.4	60 0	26.8	58.4	60 12.60	59 54.90	22 53.45	0 44.24	1.39	42.06	2.10	52.0		
Feb. 2	47 50.4	60 0	30.2	4.0	60 17.10	59 55.89	22 52.46	0 44.81	1.41	41.76	2.20	50.2		
5	48 30.6	55 4	36.0	12.2	59 24.10	59 56.77	22 51.58	0 42.33	1.96	42.19	2.30	51.8		
8	47 41.5	60 0	39.4	14.3	60 26.85	59 56.79	22 51.56	0 43.37	1.44	42.81	2.40	52.0		
18	47 45.8	60 0	33.1	9.9	60 21.50	59 59.77	22 48.58	0 42.44	1.39	45.03	2.80	52.6		
β AURIGÆ.* $\delta_0 = +44^\circ 55' 52''.3$														
Jan. 30	49 38.3	25 3	12.4	37.3	27 54.85	27 32.83	55 15.52	+0 2.84	-0.44	+41.68	-6.80	55 52.8		
31	49 33.1	25 3	18.3	44.2	28 1.25	27 34.96	55 13.39	0 2.82	0.50	42.06	6.90	50.9		
Feb. 1	49 41.8	25 3	8.4	33.8	27 51.10	27 33.54	55 14.81	0 2.86	0.38	42.78	7.00	53.1		
2	50 13.7	25 2	37.3	4.9	27 21.10	27 33.64	55 14.71	0 2.86	0.26	41.76	7.10	52.0		
4	50 15.2	25 2	35.0	2.1	27 18.85	27 33.53	55 14.82	0 2.73	0.27	42.34	7.40	52.2		
5	50 17.0	25 2	30.4	1.7	27 16.05	27 32.68	55 15.67	0 2.70	0.29	42.19	7.50	52.8		
θ AURIGÆ.* $\delta_0 = +37^\circ 12' 2''.6$														
Feb. 8	50 26.1	10 1	55.4	26.2	11 40.80	11 16.55	11 31.80	-0 5.62	-0.58	+42.81	-5.80	12 2.6		
15	50 22.8	10 1	58.0	28.7	11 43.35	11 16.90	11 31.45	0 5.53	0.51	43.73	6.30	2.8		
22	50 24.4	10 1	35.6	3.2	11 19.40	10 56.40	11 51.95	0 5.46	0.44	24.14	6.70	3.5		
Mar. 3	50 20.4	10 1	39.0	10.8	11 24.90	10 57.72	11 50.63	0 5.46	0.54	26.27	7.20	3.7		
19	50 20.8	10 1	35.4	8.7	11 22.05	10 57.17	11 51.18	0 5.42	0.44	25.57	7.50	3.4		
γ COLUMBÆ. $\delta_0 = -35^\circ 17' 55''.1$														
Jan. 30	52 35.5	35 2	20.3	54.2	37 7.25	36 46.58	13 58.23	-4 43.87	-2.49	+41.68	+10.02	17 52.9		
31	52 58.6	35 2	0.4	33.2	36 46.80	36 51.30	14 2.95	4 41.94	2.53	42.06	10.22	55.1		
Feb. 5	52 32.4	35 2	35.3	12.3	37 23.80	37 3.02	14 14.67	4 29.34	2.53	42.19	11.17	53.2		
22	52 26.1	35 2	10.4	45.1	36 57.75	(36 34.72)	13 46.37	4 28.28	2.32	24.14	13.58	(39.2)		
Mar. 3	52 23.9	35 2	27.7	5.0	37 16.35	36 50.86	14 2.51	4 28.22	2.39	26.27	14.42	52.4		
μ ORIONIS. $\delta_0 = +9^\circ 38' 41''.3$														
Jan. 30	54 56.0	40 4	46.4	17.2	44 31.80	44 7.99	38 40.36	-0 40.91	-1.91	+41.68	+1.49	3 40.7		
31	54 54.8	40 4	48.0	21.0	44 34.50	44 9.79	38 38.56	0 40.64	1.92	42.06	1.53	39.6		
Feb. 2	54 51.3	40 4	50.3	22.8	44 36.55	44 8.86	38 39.49	0 41.15	1.93	41.76	1.60	39.8		
5	54 52.2	40 4	47.3	23.2	44 35.25	44 10.28	38 38.07	0 38.87	1.92	42.19	1.69	41.2		
14	54 49.8	40 4	26.7	7.2	44 16.95	43 54.57	38 53.78	0 38.91	1.53	26.80	2.16	42.3		
19	54 48.9	40 4	30.0	7.0	44 18.50	43 56.64	38 51.71	0 38.89	1.53	25.57	2.14	39.0		
Pl. V. 327. $\delta_0 = -26^\circ 17' 10''.5$														
Jan. 30	57 44.5	35 3	32.8	8.9	38 20.85	38 2.02	15 13.67	-2 41.65	-2.59	+41.68	+8.53	17 7.7		
Feb. 22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
26	57 35.2	35 3	26.5	3.8	38 15.15	37 53.50	15 5.15	2 37.05	2.36	25.33	12.05	7.2		
Mar. 14	57 32.1	35 3	32.8	16.0	38 24.40	37 59.46	15 11.11	2 29.91	2.45	26.80	12.83	3.8		
19	58 16.3	35 2	42.2	22.9	37 32.55	38 1.03	15 12.68	2 31.72	2.21	25.57	12.85	8.2		

Date. 1872.		Right Ascension Wires.										Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
		1	2	3	4	5	6	7	8	9	10						11
ν ORIONIS.* $a_0 = 6^h 0^m 15^s.85$																	
Jan.	30	56.8	59.0	1.1	5.4	7.5	9.8	11.9	13.9	18.2	20.2	22.4	9.65	+0.11	+ 6.39	-0.29	0 15.86
Feb.	2	55.1	57.4	59.5	3.7	5.8	8.0	10.1	12.2	16.4	18.6	20.8	7.96	0.12	8.04	0.27	15.85
	5	54.1	56.2	58.3	2.6	4.7	6.8	9.0	11.1	15.3	17.5	19.7	6.85	0.10	9.17	0.24	15.88
	8	53.0	55.2	57.2	1.6	3.7	5.8	7.9	10.1	14.3	16.4	18.5	5.79	0.08	10.23	0.21	15.89
	12	52.0	54.1	56.2	0.5	2.7	4.7	6.9	9.0	13.3	15.3	17.5	4.75	0.07	11.19	-0.18	15.83
Mar.	1	50.2	52.3	54.5	58.6	0.8	2.9	5.0	7.2	11.4	13.5	15.8	2.93	0.10	12.77	+0.06	15.86
	14	49.7	51.9	54.0	58.2	0.4	2.5	4.7	6.8	11.0	13.2	15.4	2.53	0.08	12.95	0.29	15.85
	19	48.4	50.5	52.7	57.0	59.0	1.2	3.3	5.4	9.6	11.8	14.0	1.17	0.08	14.22	0.36	15.83
θ COLUMBÆ. $a_0 = 6^h 3^m 8^s.43$																	
Jan.	30	47.6	50.3	52.9	58.0	0.6	3.0	5.8	8.3	13.4	16.0	18.6	3.14	-0.38	+ 6.39	-0.85	3 8.30
Feb.	5	44.8	47.4	50.0	55.3	57.8	0.2	2.8	5.3	10.6	13.8	15.9	0.36	0.37	9.17	0.76	8.40
	8	43.7	46.4	48.9	54.1	56.6	59.2	1.8	4.4	9.6	12.1	14.7	59.23	0.29	10.23	0.71	8.37
	12	42.6	45.1	47.7	53.0	55.4	58.1	0.8	3.1	8.5	11.0	13.6	58.08	0.28	11.19	-0.64	8.35
Mar.	14	40.2	42.7	45.3	50.6	53.1	55.6	58.3	0.8	6.1	8.6	11.1	55.67	0.30	12.95	+0.08	8.40
	18	38.8	41.5	44.0	49.1	51.8	54.3	57.0	59.5	4.8	7.3	9.9	54.36	0.34	14.20	+0.18	8.40
22 H. CAMELOPARDI.* $a_0 = 6^h 4^m 44^s.18$																	
Jan.	30	2.7	8.6	14.6	26.6	32.2	38.2	43.4	50.3	1.7	7.7	13.2	38.11	+1.22	+ 6.39	-1.49	4 44.23
	31	...	...	...	25.0	31.6	37.5	43.7	49.2	...	...	...	37.40	1.32	6.92	1.47	44.17
Feb.	1	2.0	7.5	13.4	25.6	30.9	36.6	42.8	48.6	0.5	5.8	12.0	36.88	1.30	7.49	1.44	44.23
	2	1.3	7.2	12.8	24.7	30.5	36.2	42.6	48.0	59.8	5.5	11.6	36.38	1.34	8.04	1.42	44.34
	8	...	...	...	22.7	28.6	34.3	40.3	46.3	...	...	...	34.44	0.89	10.23	1.26	44.30
	12	...	...	...	21.5	27.5	33.0	39.5	45.1	...	...	...	33.32	0.86	11.19	1.10	44.27
	14	58.1	4.0	9.8	21.6	27.5	33.3	39.0	45.0	56.9	2.6	8.5	33.30	0.73	11.32	1.02	44.33
Mar.	1	55.3	1.4	7.3	18.9	24.8	30.5	36.6	42.2	54.0	59.8	5.6	30.58	1.20	12.77	-0.31	44.24
	14	...	...	...	18.0	24.0	30.1	36.1	41.8	...	...	...	30.00	0.93	12.95	+0.36	44.24
	19	53.4	59.3	5.1	16.8	22.6	28.4	34.3	40.3	51.9	57.6	2.4	28.37	0.97	14.22	+0.63	44.19
η GEMINORUM.* $a_0 = 6^h 7^m 9^s.07$																	
Jan.	30	49.5	51.7	54.1	58.5	0.6	2.8	5.0	7.2	11.7	14.0	16.2	2.85	+0.18	+ 6.39	-0.32	7 9.10
Feb.	2	47.8	50.0	52.3	56.8	58.9	1.2	3.5	5.7	10.1	12.3	14.7	1.21	0.20	8.04	0.31	9.14
	5	46.6	48.9	51.1	55.5	57.9	0.0	2.2	4.4	8.9	11.1	13.4	0.00	0.17	9.17	0.28	9.06
	8	45.6	47.9	50.2	54.6	56.8	58.9	1.2	3.4	7.8	10.1	12.4	58.99	0.13	10.23	0.25	9.10
	12	44.6	47.0	49.0	53.5	55.7	57.9	0.2	2.4	6.8	9.1	11.2	57.95	0.12	11.19	0.22	9.04
	14	44.5	46.8	49.1	53.4	55.6	57.9	0.1	2.3	6.8	9.0	11.2	57.88	0.10	11.32	-0.19	9.11
Mar.	1	...	...	...	51.7	53.9	56.1	58.3	0.5	...	...	...	56.10	0.17	12.77	+0.03	9.07
	14	42.3	44.5	46.7	51.2	53.4	55.7	58.0	0.1	4.6	6.9	9.1	55.68	0.13	12.95	0.27	9.03
	19	41.0	43.2	45.5	49.8	52.1	54.3	56.6	58.8	3.3	5.5	7.8	54.35	0.14	14.22	0.36	9.07
κ ORIONIS seq. $a_0 = 6^h 9^m 15^s.46$																	
Jan.	30	56.6	58.8	1.0	5.1	7.1	9.2	11.3	13.4	17.5	19.6	21.9	9.23	+0.09	+ 6.39	-0.33	9 15.38
Feb.	5	53.8	55.9	58.0	2.2	4.3	6.3	8.4	10.5	14.8	16.9	19.0	6.37	0.08	9.17	0.29	15.33
	8	52.8	54.9	57.0	1.1	3.1	5.2	7.4	9.6	13.8	15.8	18.0	5.34	0.06	10.23	0.27	15.36
	12	51.7	53.8	56.0	0.2	2.3	4.3	6.4	8.6	12.7	14.9	17.1	4.36	0.06	11.19	0.23	15.38
	14	51.7	53.7	55.9	0.2	2.1	4.3	6.5	8.5	12.7	14.8	16.9	4.30	0.05	11.32	-0.20	15.47
Mar.	1	50.0	52.0	54.2	58.3	0.4	2.6	4.7	6.8	10.9	13.0	15.2	2.55	0.09	12.77	+0.01	15.42
	14	49.5	51.6	53.7	58.0	0.0	2.1	4.1	6.4	10.5	12.6	14.8	2.12	0.06	12.95	+0.22	15.35

Date. 1872.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.							
			E.	G.															
ν ORIONIS.* $\delta_0 = + 14^\circ 46' 52''.6$																			
Jan. 30	m. 59	s. 47.9	35	1	45.9	17.8	36	31.85	36	4.19	46	44.16	-0	33.28	-1.37	+41.68	+0.30	46	51.5
Feb. 2	59	49.3	35	1	39.9	14.0	36	26.95	36	3.22	46	45.13	0	33.47	1.33	41.76	0.30		52.4
5	59	43.6	35	1	46.8	23.8	36	35.30	36	5.86	46	42.49	0	31.62	1.38	42.19	0.40		52.1
8	59	53.5	35	1	32.8	7.3	36	20.05	36	4.44	46	43.91	0	32.40	1.30	42.81	0.40		53.4
12	59	45.0	35	1	41.2	20.2	36	30.70	36	5.70	46	42.65	0	31.09	1.35	42.37	0.40		53.0
Mar. 1	59	47.7	35	1	23.0	59.1	36	11.05	35	51.89	46	56.46	0	32.31	1.25	27.47	0.50		50.9
14	59	44.4	35	1	21.7	2.2	36	11.95	35	49.04	46	59.31	0	30.88	1.20	26.80	0.40		54.4
19	59	43.4	35	1	23.4	2.2	36	12.80	35	50.22	46	58.13	0	31.25	1.20	25.57	0.40		51.6
θ COLUMBÆ. $\delta_0 = - 37^\circ 14' 4''.6$																			
Jan. 30	2	50.6	30	2	42.1	14.2	32	28.15	32	15.09	9	26.74	-5	34.90	-2.62	+41.68	+9.64	14	12.9
Feb. 5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
8	2	39.7	30	2	58.9	35.0	32	46.95	32	26.68	9	38.33	5	25.64	2.60	42.81	11.42		12.2
12	2	19.5	30	3	29.0	8.6	33	18.80	32	38.47	9	50.12	5	12.15	2.37	42.37	12.10		10.2
Mar. 14	2	34.5	30	2	56.0	37.5	32	46.75	32	24.39	9	36.04	5	9.93	2.36	26.80	14.98		6.5
18	3	16.8	30	2	1.8	39.8	31	50.80	32	14.20	9	25.85	5	19.54	2.30	26.32	15.02		6.4
22 H. CAMELOPARDI.* $\delta_0 = + 69^\circ 21' 36''.8$																			
Jan. 30	3	46.3	0	2	29.5	51.8	2	10.65	2	14.44	20	33.91	+0	32.43	+0.33	+41.68	-11.00	21	37.4
31	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Feb. 1	3	31.8	0	3	3.2	25.0	2	44.10	2	13.79	20	34.56	0	32.65	-0.05	42.78	11.50		38.4
2	3	46.8	0	2	56.0	18.5	2	37.25	2	14.30	20	34.05	0	32.62	+0.28	41.76	11.70		37.0
8	4	33.3	0	2	31.2	55.4	2	13.30	2	12.79	20	35.56	0	31.58	0.78	42.81	13.10		37.6
12	4	53.6	0	2	15.1	45.6	2	0.35	2	9.74	20	38.61	0	30.30	0.74	42.37	13.70		38.3
14	3	41.3	0	2	52.0	17.0	2	34.50	2	10.45	20	37.90	0	30.88	0.26	41.76	14.10		36.7
Mar. 1	3	44.2	0	2	31.7	58.0	2	14.85	1	53.39	20	54.96	0	31.50	0.47	27.47	16.40		38.0
14	4	47.4	0	1	55.7	28.6	1	42.15	1	50.21	20	58.14	0	30.10	0.93	26.80	17.30		38.7
19	3	44.9	0	2	25.3	55.4	2	10.35	1	50.23	20	58.12	0	30.46	0.62	25.57	17.50		37.3
η GEMINORUM.* $\delta_0 = + 22^\circ 32' 28''.8$																			
Jan. 30	6	43.9	50	1	13.9	40.6	50	57.25	50	34.34	32	14.01	-0	22.97	-1.01	+41.68	-1.60	32	30.1
Feb. 2	6	40.7	50	1	17.2	45.3	51	1.25	50	36.40	32	11.95	0	23.10	1.02	41.76	1.60		28.0
5	6	41.2	50	1	13.2	44.6	50	58.90	50	36.12	32	12.23	0	21.83	1.01	42.19	1.70		29.9
8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
12	6	38.1	50	1	13.2	48.8	51	1.00	50	37.00	32	11.35	0	21.46	1.02	42.37	1.80		29.4
14	6	34.3	50	1	20.2	51.0	51	5.60	50	36.99	32	11.36	0	21.87	1.05	41.76	1.90		28.3
Mar. 1	7	9.6	50	0	19.7	51.0	50	5.35	50	21.71	32	26.64	0	22.31	0.85	27.47	2.20		28.7
14	6	35.8	50	0	54.4	30.4	50	42.40	50	18.28	32	30.07	0	21.32	0.92	26.80	2.50		32.1
19	6	34.6	50	0	56.2	29.7	50	42.95	50	19.07	32	29.28	0	21.59	0.92	25.57	2.50		29.8
κ ORIONIS seq. $\delta_0 = + 12^\circ 18' 20''.5$																			
Jan. 30	8	50.1	5	0	12.7	44.2	4	58.45	4	33.96	18	14.39	-0	36.87	-1.87	+41.68	+0.78	18	18.1
Feb. 5	9	21.8	0	4	27.5	3.6	4	15.55	4	35.30	18	13.05	0	35.06	1.75	42.19	0.93		19.4
8	8	44.1	5	0	16.8	52.0	5	4.40	4	37.22	18	11.13	0	35.90	1.24	42.81	0.99		17.8
12	8	43.4	5	0	15.0	53.2	5	4.10	4	37.17	18	11.18	0	34.45	1.24	42.37	1.05		18.9
14	8	43.6	5	0	16.0	50.2	5	3.10	4	36.56	18	11.79	0	35.11	1.24	41.76	1.08		18.3
Mar. 1	9	22.2	0	4	5.3	44.1	3	54.70	4	19.83	18	28.52	0	35.81	1.61	27.47	1.17		19.7
14	8	44.7	0	4	51.2	31.9	4	41.55	4	19.25	18	29.10	0	34.24	1.44	26.80	1.14		21.4

Date. 1872.		Right Ascension Wires.										Seconds of Transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
		1	2	3	4	5	6	7	8	9	10						11
δ URSÆ MINORIS L. C.* $a_0 = 18^h 13^m 37^s.54$																	
Jan.	30	^{s.} 56.4	^{s.} 30.4	^{s.} 4.9	^{s.} 16.2	^{s.} 50.6	^{s.} 24.8	^{s.} 57.8	^{s.} 34.4	^{s.} 44.2	^{s.} 17.6	^{s.} 54.2	^{s.} 23.06	^{s.} -7.78	^{s.} + 6.39	^{s.} +13.93	^{m.} 37 ^{s.} 37.20
	31	^{s.} 56.8	^{s.} 30.6	^{s.} 7.0	^{s.} 16.7	^{s.} 52.3	^{s.} 25.0	^{s.} 1.0	^{s.} 36.0	^{s.} 42.0	^{s.} 19.6	^{s.} 54.5	^{s.} 23.49	^{s.} 8.39	^{s.} 6.92	^{s.} 13.71	^{s.} 37.83
Feb.	1	^{s.} 56.7	^{s.} 30.6	^{s.} 6.0	^{s.} 14.9	^{s.} 49.1	^{s.} 24.4	^{s.} 59.3	^{s.} 33.0	^{s.} 43.7	^{s.} 18.4	^{s.} 52.7	^{s.} 24.44	^{s.} 8.26	^{s.} 7.49	^{s.} 13.51	^{s.} 37.18
	2	^{s.} 7.5	^{s.} 32.1	^{s.} 5.4	^{s.} 16.1	^{s.} 49.7	^{s.} 25.0	^{s.} 1.2	^{s.} 34.8	^{s.} 42.6	^{s.} 18.4	^{s.} 53.9	^{s.} 25.15	^{s.} 8.54	^{s.} 8.04	^{s.} 13.31	^{s.} 37.96
	5	^{s.} 56.0	^{s.} 29.3	^{s.} 4.4	^{s.} 13.7	^{s.} 47.7	^{s.} 23.0	^{s.} 58.0	^{s.} 32.5	^{s.} 42.6	^{s.} 16.5	^{s.} 51.7	^{s.} 24.65	^{s.} 7.50	^{s.} 9.17	^{s.} 12.76	^{s.} 37.65
	8	...	...	...	^{s.} 1.6	^{s.} 10.5	^{s.} 21.2	^{s.} 54.9	^{s.} 29.8	...	...	...	^{s.} 21.40	^{s.} 5.68	^{s.} 10.23	^{s.} 12.13	^{s.} 37.35
	12	...	...	...	^{s.} 11.4	^{s.} 46.4	^{s.} 21.3	^{s.} 55.0	^{s.} 28.8	...	...	...	^{s.} 20.58	^{s.} 5.44	^{s.} 11.19	^{s.} 11.03	^{s.} 37.36
	14	...	...	...	^{s.} 10.7	^{s.} 45.7	^{s.} 20.8	^{s.} 55.5	^{s.} 29.8	...	...	...	^{s.} 20.50	^{s.} 4.63	^{s.} 11.32	^{s.} 10.45	^{s.} 37.64
	22	...	...	...	^{s.} 13.9	^{s.} 48.5	^{s.} 22.3	^{s.} 57.5	^{s.} 33.2	^{s.} 39.5	^{s.} 17.0	^{s.} 51.7	...	^{s.} 6.49	^{s.} 13.00	^{s.} 8.27	^{s.} 37.06
	26	...	...	...	^{s.} 13.9	^{s.} 48.5	^{s.} 22.3	^{s.} 57.5	^{s.} 33.2	...	...	...	^{s.} 23.08	^{s.} 6.01	^{s.} 13.04	^{s.} 6.91	^{s.} 37.02
	27	...	...	...	^{s.} 15.8	^{s.} 50.6	^{s.} 25.8	^{s.} 0.2	^{s.} 34.8	...	...	...	^{s.} 25.44	^{s.} 6.76	^{s.} 12.92	^{s.} 6.58	^{s.} 38.18
Mar.	1	...	...	...	^{s.} 16.9	^{s.} 51.3	^{s.} 27.4	^{s.} 2.1	^{s.} 36.1	...	...	...	^{s.} 26.76	^{s.} 7.62	^{s.} 12.77	^{s.} 5.58	^{s.} 37.49
	11	...	...	...	...	...	...	...	...	...	...	...	...	^{s.} 6.45	^{s.} 13.74	^{s.} 2.17	^{s.} 35.61
	14	...	...	...	^{s.} 19.9	^{s.} 54.6	^{s.} 29.9	^{s.} 4.7	^{s.} 39.0	...	...	...	^{s.} 29.62	^{s.} 5.91	^{s.} 12.95	^{s.} + 1.08	^{s.} 37.74
	18	...	...	...	...	...	...	...	...	^{s.} 51.0	...	...	^{s.} 30.24	^{s.} 6.89	^{s.} 14.20	^{s.} - 0.22	^{s.} 37.33
β CANIS MAJORIS. $a_0 = 6^h 17^m 3^s.90$																	
Feb.	8	^{s.} 41.3	^{s.} 43.5	^{s.} 45.7	^{s.} 50.0	^{s.} 52.1	^{s.} 54.2	^{s.} 56.5	^{s.} 58.6	^{s.} 2.9	^{s.} 5.0	^{s.} 7.2	^{s.} 54.27	^{s.} -0.13	^{s.} +10.23	^{s.} -0.46	^{m.} 17 ^{s.} 3.91
	12	^{s.} 40.1	^{s.} 42.3	^{s.} 44.4	^{s.} 48.8	^{s.} 50.9	^{s.} 53.1	^{s.} 55.3	^{s.} 57.6	^{s.} 1.8	^{s.} 4.0	^{s.} 6.0	^{s.} 53.12	^{s.} 0.12	^{s.} 11.19	^{s.} 0.41	^{s.} 3.78
	14	^{s.} 40.1	^{s.} 42.3	^{s.} 44.5	^{s.} 48.8	^{s.} 51.0	^{s.} 53.1	^{s.} 55.3	^{s.} 57.4	^{s.} 1.7	^{s.} 3.8	^{s.} 6.0	^{s.} 53.09	^{s.} 0.11	^{s.} 11.32	^{s.} 0.39	^{s.} 3.91
	26	^{s.} 38.2	^{s.} 40.4	^{s.} 42.6	^{s.} 47.0	^{s.} 49.0	^{s.} 51.1	^{s.} 53.3	^{s.} 55.6	^{s.} 59.8	^{s.} 2.0	^{s.} 4.2	^{s.} 51.20	^{s.} 0.13	^{s.} 13.04	^{s.} -0.20	^{s.} 3.91
Mar.	14	^{s.} 37.9	^{s.} 40.1	^{s.} 42.2	^{s.} 46.6	^{s.} 48.8	^{s.} 51.0	^{s.} 53.1	^{s.} 55.3	^{s.} 59.6	^{s.} 1.7	^{s.} 3.9	^{s.} 50.93	^{s.} 0.13	^{s.} 12.95	^{s.} +0.10	^{s.} 3.85
Pr. VI. 110. $a_0 = 6^h 19^m 34^s.76$																	
Jan.	30	^{s.} 14.2	^{s.} 16.8	^{s.} 19.3	^{s.} 24.2	^{s.} 27.2	^{s.} 29.5	^{s.} 32.3	^{s.} 34.8	^{s.} 39.8	^{s.} 42.5	^{s.} 45.0	^{s.} 29.60	^{s.} -0.37	^{s.} + 6.39	^{s.} -0.89	^{m.} 19 ^{s.} 34.73
Feb.	8	^{s.} 10.1	^{s.} 12.9	^{s.} 15.3	^{s.} 20.5	^{s.} 23.1	^{s.} 25.7	^{s.} 28.3	^{s.} 30.8	^{s.} 36.0	^{s.} 38.5	^{s.} 40.9	^{s.} 25.65	^{s.} 0.28	^{s.} 10.23	^{s.} 0.77	^{s.} 34.83
	12	^{s.} 9.1	^{s.} 11.7	^{s.} 14.2	^{s.} 19.2	^{s.} 21.9	^{s.} 24.4	^{s.} 27.0	^{s.} 29.6	^{s.} 34.7	^{s.} 37.3	^{s.} 39.8	^{s.} 24.44	^{s.} 0.27	^{s.} 11.19	^{s.} 0.70	^{s.} 34.66
	14	^{s.} 9.0	^{s.} 11.6	^{s.} 14.1	^{s.} 19.3	^{s.} 22.0	^{s.} 24.5	^{s.} 26.9	^{s.} 29.5	^{s.} 34.7	^{s.} 37.2	^{s.} 39.8	^{s.} 24.42	^{s.} 0.23	^{s.} 11.32	^{s.} 0.67	^{s.} 34.84
Mar.	1	^{s.} 7.1	^{s.} 9.8	^{s.} 12.2	^{s.} 17.4	^{s.} 20.1	^{s.} 22.7	^{s.} 25.1	^{s.} 27.8	^{s.} 33.0	^{s.} 35.5	^{s.} 38.3	^{s.} 22.64	^{s.} 0.36	^{s.} 12.77	^{s.} 0.34	^{s.} 34.71
	14	^{s.} 6.5	^{s.} 9.1	^{s.} 11.6	^{s.} 16.8	^{s.} 19.5	^{s.} 22.0	^{s.} 24.6	^{s.} 27.3	^{s.} 32.3	^{s.} 34.8	^{s.} 37.5	^{s.} 22.00	^{s.} 0.29	^{s.} 12.95	^{s.} -0.02	^{s.} 34.64
	18	^{s.} 5.3	^{s.} 7.8	^{s.} 10.4	^{s.} 15.6	^{s.} 18.1	^{s.} 20.7	^{s.} 23.3	^{s.} 25.8	^{s.} 30.8	^{s.} 33.5	^{s.} 35.9	^{s.} 20.66	^{s.} 0.33	^{s.} 14.20	^{s.} +0.08	^{s.} 34.61
ν GEMINORUM. $a_0 = 6^h 21^m 21^s.79$																	
Jan.	30	^{s.} 2.4	^{s.} 4.5	^{s.} 6.8	^{s.} 11.2	^{s.} 13.4	^{s.} 15.6	^{s.} 17.8	^{s.} 20.0	^{s.} 24.4	^{s.} 26.6	^{s.} 28.7	^{s.} 15.58	^{s.} +0.16	^{s.} + 6.39	^{s.} -0.37	^{m.} 21 ^{s.} 21.76
Feb.	8	^{s.} 4.5	...	...	^{s.} 7.3	^{s.} 9.6	^{s.} 11.8	^{s.} 13.9	^{s.} 16.1	...	...	...	^{s.} 11.74	^{s.} 0.11	^{s.} 10.23	^{s.} 0.32	^{s.} 21.76
	12	^{s.} 57.6	^{s.} 59.8	^{s.} 2.0	^{s.} 6.4	^{s.} 8.6	^{s.} 10.6	^{s.} 12.8	^{s.} 15.1	^{s.} 19.6	^{s.} 21.7	^{s.} 23.9	^{s.} 10.74	^{s.} 0.11	^{s.} 11.19	^{s.} 0.28	^{s.} 21.76
	14	^{s.} 57.5	^{s.} 59.7	^{s.} 1.9	^{s.} 6.3	^{s.} 8.5	^{s.} 10.6	^{s.} 12.8	^{s.} 15.0	^{s.} 19.4	^{s.} 21.5	^{s.} 23.8	^{s.} 10.64	^{s.} 0.09	^{s.} 11.32	^{s.} -0.26	^{s.} 21.79
Mar.	14	^{s.} 55.4	^{s.} 57.6	^{s.} 59.8	^{s.} 4.1	^{s.} 6.3	^{s.} 8.5	^{s.} 10.7	^{s.} 12.9	^{s.} 17.3	^{s.} 19.5	^{s.} 21.7	^{s.} 8.53	^{s.} 0.12	^{s.} 12.95	^{s.} +0.18	^{s.} 21.78
	28	^{s.} 52.8	^{s.} 55.0	^{s.} 57.1	^{s.} 1.5	^{s.} 3.7	^{s.} 6.0	^{s.} 8.2	^{s.} 10.4	^{s.} 14.8	^{s.} 16.9	^{s.} 19.1	^{s.} 5.95	^{s.} 0.10	^{s.} 15.33	^{s.} +0.49	^{s.} 21.87
Pr. VI. 136. $a_0 = 6^h 23^m 25^s.49$																	
Jan.	30	^{s.} 5.4	^{s.} 8.1	^{s.} 10.4	^{s.} 15.4	^{s.} 17.8	^{s.} 20.2	^{s.} 22.6	^{s.} 25.1	^{s.} 30.0	^{s.} 32.4	^{s.} 34.9	^{s.} 20.21	^{s.} -0.32	^{s.} + 6.39	^{s.} -0.81	^{m.} 23 ^{s.} 25.47
Feb.	2	^{s.} 4.0	^{s.} 6.5	^{s.} 8.9	^{s.} 13.8	^{s.} 16.3	^{s.} 18.7	^{s.} 21.1	^{s.} 23.6	^{s.} 28.4	^{s.} 30.8	^{s.} 33.4	^{s.} 18.68	^{s.} 0.35	^{s.} 8.05	^{s.} 0.77	^{s.} 25.61
	8	^{s.} 1.6	^{s.} 4.1	^{s.} 6.5	^{s.} 9.6	^{s.} 14.1	^{s.} 16.4	^{s.} 18.8	^{s.} 21.2	^{s.} 26.0	^{s.} 28.6	^{s.} 31.0	^{s.} 16.17	^{s.} 0.24	^{s.} 10.23	^{s.} 0.70	^{s.} 25.46
	14	^{s.} 0.6	^{s.} 2.8	^{s.} 5.4	^{s.} 10.3	^{s.} 12.7	^{s.} 15.0	^{s.} 17.6	^{s.} 20.0	^{s.} 24.9	^{s.} 27.3	^{s.} 29.8	^{s.} 15.13	^{s.} 0.20	^{s.} 11.32	^{s.} 0.61	^{s.} 25.64
Mar.	1	^{s.} 26.9	^{s.} 29.2	^{s.} 31.5	^{s.} 36.3	^{s.} 39.0	^{s.} 41.5	^{s.} 43.9	^{s.} 46.5	^{s.} 51.2	^{s.} 53.6	^{s.} 56.1	^{s.} 41.43	^{s.} 0.32	^{s.} 12.77	^{s.} 0.30	^{s.} (53.58)
	14	^{s.} 58.1	^{s.} 0.5	^{s.} 3.0	^{s.} 7.9	^{s.} 10.3	^{s.} 12.7	^{s.} 15.1	^{s.} 17.7	^{s.} 22.6	^{s.} 25.0	^{s.} 27.5	^{s.} 12.76	^{s.} 0.25	^{s.} 12.95	^{s.} 0.02	^{s.} 25.44
	18	...	...	...	^{s.} 6.5	^{s.} 8.9	^{s.} 11.4	^{s.} 14.0	^{s.} 16.4	...	...	...	^{s.} 11.44	^{s.} 0.29	^{s.} 14.20	^{s.} 0.08	^{s.} 25.27

Date. 1872.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
δ URSÆ MINORIS L. C.* $\delta_0 = + 93^\circ 23' 36''.6$												
Jan. 30	11 19.7	0 1	11.8	31.3	0 51.55	1 1.29	21 47.06	+1 18.62	+2.31	+41.68	-13.70	23 36.0
31	11 32.8	0 1	12.6	32.5	0 52.55	1 1.32	21 47.03	1 18.18	2.21	42.06	13.90	35.6
Feb. 1	17 8.8	0 1	41.2	1.3	1 21.25	1 3.79	21 44.56	1 19.20	3.38	42.78	14.10	35.8
2	17 34.7	0 1	42.3	3.2	1 22.75	1 3.32	21 45.03	1 19.06	3.75	41.76	14.30	35.3
5	13 36.3	0 1	13.3	38.8	0 56.05	0 57.05	21 51.30	1 14.73	1.81	42.19	15.10	34.9
8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
14	10 38.8	0 1	0.8	23.6	0 42.20	0 54.78	21 53.57	1 14.86	2.67	41.76	17.50	35.4
22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
26	14 43.0	0 1	1.6	22.8	0 42.20	0 32.87	22 15.48	1 16.39	2.33	25.33	20.00	39.5
27	14 47.0	0 0	59.8	20.9	0 40.35	0 34.00	22 14.35	1 10.31	2.10	26.34	20.10	33.0
Mar. 1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
11	16 29.5	0 1	1.7	28.9	0 45.30	0 35.12	22 17.32	1 14.34	2.95	25.32	21.60	38.3
14	14 45.4	0 0	48.8	19.1	0 33.95	0 32.35	22 15.62	1 12.98	2.08	26.80	21.80	35.7
18	16 10.2	0 1	3.3	28.7	0 46.00	0 32.56	22 14.80	1 15.15	2.71	26.32	21.90	37.1
19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
β CANIS MAJORIS. $\delta_0 = - 17^\circ 53' 40''.0$												
Feb. 8	16 35.1	15 1	3.3	41.0	15 52.15	15 28.17	52 39.82	-1 48.19	-2.12	+42.81	+7.72	53 39.6
12	16 36.5	15 1	2.4	45.3	15 53.85	15 33.12	52 44.77	1 43.80	2.14	42.37	8.25	40.1
14	16 31.3	15 1	5.5	43.2	15 54.35	15 27.13	52 38.78	1 45.83	2.11	41.76	8.49	36.5
26	16 31.7	15 0	48.0	24.6	15 36.30	15 11.95	52 23.60	1 47.94	2.04	25.33	9.65	38.6
Mar. 14	16 31.7	15 0	48.6	32.9	15 40.75	15 16.77	52 28.42	1 43.19	2.04	26.80	10.52	36.3
Pl. VI. 110. $\delta_0 = - 36^\circ 38' 33''.4$												
Jan. 30	19 18.6	55 2	14.8	48.8	57 1.80	56 50.22	34 1.87	-5 17.59	-2.56	+41.68	+8.57	38 31.8
Feb. 8	19 4.2	55 2	38.8	15.2	57 27.00	57 4.47	34 16.12	5 8.98	2.54	42.81	10.45	34.4
12	19 12.2	55 2	36.0	17.6	57 26.80	57 13.95	34 25.60	4 56.20	2.61	42.37	11.19	30.8
14	19 0.0	55 2	42.8	19.7	57 31.25	57 5.55	34 17.20	5 2.32	2.51	41.76	11.54	28.7
Mar. 1	18 59.1	55 2	26.8	2.8	57 14.80	56 50.05	34 1.70	5 8.33	2.40	27.47	13.69	31.3
14	19 3.9	55 2	28.7	11.7	57 20.20	57 1.14	34 12.79	4 54.43	2.37	26.80	14.54	28.2
18	19 1.5	55 2	22.6	0.7	57 11.65	56 51.46	34 3.11	5 3.38	2.35	26.32	14.70	27.8
ν GEMINORUM. $\delta_0 = + 20^\circ 17' 26''.7$												
Jan. 30	20 59.7	5 1	10.4	40.2	5 55.30	5 35.73	17 12.62	-0 25.84	-1.05	+41.68	-0.89	17 26.5
Feb. 8	20 59.2	5 1	7.4	40.8	5 54.10	5 38.71	17 9.64	0 25.17	1.04	42.81	1.05	25.2
12	20 45.6	5 1	21.1	59.0	6 10.05	5 39.16	17 9.19	0 24.16	1.16	42.37	1.12	25.1
14	20 52.9	5 1	13.0	46.0	5 59.50	5 37.72	17 10.63	0 24.63	1.08	41.76	1.16	25.5
Mar. 14	20 47.8	5 0	56.9	36.4	5 46.65	5 21.17	17 27.18	0 24.02	1.01	26.80	1.74	27.2
28	20 46.9	5 0	56.2	33.2	5 44.60	5 21.22	17 27.13	0 24.25	0.96	24.77	1.95	24.7
Pl. VI. 136. $\delta_0 = - 32^\circ 30' 1''.5$												
Jan. 30	22 54.3	50 0	31.0	4.3	50 17.65	49 48.98	27 0.63	-3 51.56	-2.16	+41.68	+7.92	30 39.6
Feb. 2	23 43.5	45 4	30.7	4.1	49 17.40	49 44.85	26 56.50	3 52.96	2.69	41.76	8.56	37.1
8	22 54.6	50 0	32.0	7.2	50 19.60	49 55.69	27 7.34	3 45.42	2.21	42.81	9.74	43.1
14	23 0.6	50 0	27.0	2.8	50 14.90	49 58.85	27 10.50	3 40.59	2.26	41.76	10.79	30 41.6
Mar. 1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
14	23 7.3	50 0	7.4	49.2	49 58.30	49 52.21	27 3.86	3 34.99	2.28	26.80	13.74	30 0.6
18	23 20.9	45 4	44.9	22.8	49 33.85	49 44.38	26 56.03	3 41.39	2.49	26.32	13.86	29 59.7

Date. 1872.		Right Ascension Wires.										Seconds of transit over Mean Wire.	$n \tan \delta$ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
		1	2	3	4	5	6	7	8	9	10						11
13 MONOCEROTIS. $\alpha_0 = 6^h 25^m 58^s.99$																	
Jan.	30	40.4	42.5	44.5	48.8	50.9	52.9	55.0	57.1	1.3	3.3	5.5	52.93	+0.05	+ 6.39	-0.39	25 58.98
Feb.	5	...	...	...	45.9	48.0	50.1	52.2	54.3	...	...	...	50.10	0.04	9.18	0.36	58.96
	8	36.7	38.8	40.8	44.9	47.0	49.1	51.1	53.2	57.3	59.4	1.6	49.08	0.03	10.23	0.34	59.00
	12	35.6	37.7	39.8	44.0	46.0	48.1	50.1	52.2	56.4	58.5	0.5	48.08	0.03	11.19	0.30	59.00
	14	35.5	37.5	39.6	43.9	45.9	48.0	50.0	52.1	56.3	58.4	0.4	47.96	0.02	11.32	-0.29	59.01
Mar.	14	33.4	35.5	37.6	41.8	43.8	45.9	48.0	50.1	54.2	56.2	58.3	45.89	0.03	12.95	+0.13	59.00
	18	32.0	34.2	36.3	40.3	42.5	44.5	46.6	48.6	52.8	54.8	57.0	44.51	0.04	14.20	0.28	59.03
	28	30.8	32.9	35.0	39.1	41.2	43.3	45.4	47.4	51.7	53.7	55.8	43.30	0.02	15.33	0.35	59.00
Pr. VI. 164. $\alpha_0 = 6^h 27^m 51^s.93$																	
Feb.	5	28.9	31.3	33.7	38.7	41.0	43.4	46.0	48.3	53.1	55.6	58.1	43.46	-0.30	+ 9.18	-0.75	27 51.59
	12	26.8	29.1	31.7	36.5	38.9	41.3	43.7	46.2	51.0	53.5	55.9	41.33	0.23	11.19	0.64	51.65
	14	26.7	29.0	31.4	36.5	38.9	41.3	43.6	46.0	51.0	53.4	55.8	41.24	0.20	11.32	-0.62	51.74
	18	22.9	25.5	27.9	32.7	35.1	37.6	40.0	42.5	47.3	49.7	52.3	37.59	0.28	14.20	+0.06	51.57
γ GEMINORUM.* $\alpha_0 = 6^h 30^m 19^s.02$																	
Feb.	5	57.2	59.4	1.4	5.8	7.9	10.1	12.2	14.3	18.7	20.8	23.0	10.07	+0.12	+ 9.18	-0.37	30 19.00
	8	56.2	58.4	0.4	4.8	7.0	9.2	11.3	13.4	17.7	19.8	22.0	9.11	0.09	10.24	0.34	19.10
	12	55.3	57.3	59.4	3.8	5.9	8.1	10.3	12.4	16.7	18.9	21.0	8.10	0.09	11.19	0.31	19.07
	14	55.1	57.2	59.5	3.7	5.8	8.0	10.2	12.3	16.6	18.8	20.9	8.01	0.07	11.32	0.29	19.11
Mar.	1	53.3	55.6	57.7	2.0	4.2	6.3	8.4	10.6	14.9	17.0	19.0	6.27	0.12	12.77	-0.09	19.07
	14	53.0	55.1	57.2	1.5	3.7	5.9	8.0	10.1	14.6	16.6	18.7	5.86	0.09	12.95	+0.11	19.01
ψ^4 AURIGÆ. $\alpha_0 = 6^h 33^m 45^s.97$																	
Feb.	8	18.6	21.5	24.4	30.3	33.1	35.9	38.8	41.8	47.5	50.4	53.4	35.97	+0.33	+10.24	-0.54	33 46.00
	12	17.6	20.5	23.5	29.3	32.0	35.0	37.8	40.8	46.6	49.3	52.3	34.97	0.31	11.19	0.50	45.97
	14	17.5	20.4	23.3	29.1	31.9	34.9	37.8	40.7	46.5	49.3	52.2	34.87	0.27	11.32	-0.48	45.98
Mar.	14	15.2	18.0	20.9	26.8	29.7	32.5	35.4	38.4	44.1	47.0	49.8	32.53	0.34	12.95	+0.02	45.84
	18	13.9	16.6	19.7	25.3	28.3	31.1	34.0	37.0	42.7	45.6	48.5	31.15	0.40	14.20	0.15	45.90
	28	12.5	15.4	18.3	24.1	27.0	30.0	32.8	35.7	41.4	44.4	47.3	29.90	0.28	15.33	0.43	45.94
51 H. CEPHEI.* $\alpha_0 = 6^h 39^m 44^s.74$																	
Jan.	30	26.8	11.3	53.9	20.3	1.9	46.2	27.2	10.6	34.8	17.6	1.5	44.74	+ 9.59	+ 6.39	-17.57	39 43.15
	31	26.8	11.0	53.2	19.8	2.3	44.5	26.1	11.2	35.4	18.7	1.0	44.55	10.34	6.93	17.36	44.46
Feb.	1	24.9	8.4	50.8	16.3	1.5	43.8	24.7	7.1	35.1	15.0	59.6	42.47	10.18	7.51	17.16	43.00
	2	24.2	8.8	50.6	16.2	0.3	41.6	25.3	9.2	35.1	17.6	0.5	42.67	10.53	8.05	16.98	44.27
	5	25.0	9.5	51.3	17.1	0.4	41.9	26.2	8.3	33.6	16.3	59.5	42.64	9.23	9.18	16.51	44.54
	8	26.4	8.5	51.6	17.0	59.8	41.8	26.2	9.1	34.9	16.0	59.6	42.81	7.00	10.24	15.95	44.10
	12	...	...	...	...	...	40.2	24.0	7.5	32.4	15.8	58.1	40.21	6.71	11.19	14.81	43.30
	14	24.5	8.2	50.0	15.8	58.2	40.0	22.7	6.9	33.0	13.8	58.0	41.01	5.70	11.32	14.17	43.86
	19	...	3.5	...	11.7	55.4	39.1	17.6	3.1	...	...	...	37.23	8.61	12.48	12.83	45.49
	22	21.4	1.4	44.1	8.5	51.1	34.1	16.8	1.0	28.0	8.4	52.5	35.21	7.99	13.00	11.98	44.22
	26	17.3	57.6	41.9	...	...	...	...	...	...	6.2	50.3	32.84	7.41	13.04	9.31	43.98
	27	...	...	40.3	8.0	...	...	...	55.4	25.5	7.3	50.0	32.83	8.32	12.92	10.04	44.03
	28	16.5	59.3	41.3	6.3	...	...	...	...	...	...	...	32.78	8.78	12.84	9.67	44.73
Mar.	1	15.1	57.5	38.6	6.0	48.0	31.7	...	57.7	21.1	3.9	46.7	30.85	9.38	12.77	8.96	44.04
	3	16.3	58.6	40.8	6.9	...	...	...	58.8	23.9	7.8	49.8	32.75	7.08	12.73	8.31	43.25
	11	...	...	...	...	...	...	...	53.4	19.7	1.9	44.8	27.90	7.95	13.74	5.13	44.46
	14	12.6	53.2	35.5	2.9	...	...	...	...	...	...	...	27.95	7.29	12.95	3.84	44.35
	18	7.9	50.1	34.3	58.0	...	...	...	...	...	...	...	24.00	8.49	14.20	- 2.35	44.34
	28	4.3	46.0	29.1	54.4	37.9	...	...	...	...	...	...	20.42	6.03	15.33	+ 2.05	43.83

Date. 1872.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.							
			E.	G.															
13 MONOCEROTIS. $\delta_0 = + 7^\circ 25' 28''.7$																			
Jan. 30	25	32.2	55	3	0.8	31.2	57	46.00	57	19.06	25	29.29	-3	44.49	-1.74	+41.68	+1.67	25	26.4
Feb. 5	26	3.7	55	2	16.0	51.1	57	3.55	57	21.25	25	27.10	3	42.32	1.63	42.19	1.95	27.3	
8	25	28.6	55	3	0.4	29.8	57	45.10	57	18.43	25	29.92	3	43.33	1.73	42.81	2.08	29.7	
12	25	23.7	55	3	7.4	44.6	57	56.00	57	24.25	25	24.10	3	41.58	1.77	42.37	2.22	25.3	
14	25	25.9	55	3	3.9	38.1	57	51.00	57	22.24	25	26.11	3	42.40	1.76	41.76	2.30	26.0	
Mar. 14	25	26.9	55	2	39.7	21.6	57	30.65	57	5.93	25	42.42	3	41.35	1.50	26.80	2.68	29.0	
18	25	24.3	55	2	44.0	19.3	57	31.65	57	5.36	25	42.99	3	42.56	1.50	26.32	2.65	27.9	
28	25	54.7	55	2	1.7	40.6	56	51.15	57	5.99	25	42.36	3	41.74	1.37	24.77	2.52	26.5	
Pr. VI. 164. $\delta_0 = - 31^\circ 56' 15''.2$																			
Feb. 5	27	24.6	15	1	50.7	27.0	16	38.85	16	17.80	53	29.55	-3	32.13	-2.41	+42.19	+8.86	56	13.0
12	27	45.6	15	1	27.4	7.3	16	17.35	16	22.14	53	33.79	3	28.40	2.44	42.37	10.16	12.1	
14	27	13.3	15	2	1.0	35.7	16	48.35	16	17.28	53	28.93	3	32.69	2.33	41.76	10.56	11.6	
18	27	14.9	15	1	39.1	16.6	16	27.85	16	2.57	53	14.22	3	32.56	2.22	26.32	13.69	9.0	
γ GEMINORUM.* $\delta_0 = + 16^\circ 30' 21''.6$																			
Feb. 5	29	50.5	50	3	15.6	51.8	53	3.70	52	39.04	30	9.31	-3	29.37	-1.51	+42.19	-0.10	30	20.5
8	29	51.2	50	3	14.8	49.0	53	1.90	52	39.38	30	8.97	3	30.08	1.49	42.81	0.10	20.1	
12	29	46.7	50	3	16.3	56.1	53	6.20	52	39.27	30	9.08	3	28.86	1.53	42.37	0.10	21.0	
14	29	47.2	50	3	22.5	51.8	53	7.15	52	40.98	30	7.37	3	29.44	1.51	41.76	0.20	18.0	
Mar. 1	29	48.9	50	2	58.2	33.0	52	45.60	52	23.70	30	24.65	3	30.01	1.37	27.47	0.30	20.4	
14	29	48.2	50	2	53.8	35.6	52	44.70	52	22.43	30	25.92	3	28.72	1.24	26.80	0.50	22.3	
ψ^4 AURIGÆ. $\delta_0 = + 44^\circ 38' 40''.8$																			
Feb. 8	33	8.3	45	0	28.6	57.3	45	12.95	44	47.09	38	1.26	+3	2.45	-0.16	+42.81	-6.92	38	39.4
12	33	14.2	45	0	18.8	52.9	45	5.85	44	46.43	38	1.92	3	2.36	0.05	42.37	7.32	39.3	
14	33	2.0	45	0	33.5	1.8	45	17.65	44	46.93	38	1.42	3	2.40	0.26	41.76	7.53	37.8	
Mar. 14	33	8.1	45	0	0.4	37.2	44	48.80	44	26.02	38	22.33	3	2.35	0.32	26.80	10.10	41.1	
18	33	8.5	45	0	4.2	34.9	44	49.55	44	28.45	38	19.90	3	2.42	0.30	26.32	10.28	38.1	
28	33	6.8	45	0	0.5	35.3	44	47.90	44	26.34	38	22.01	3	2.37	0.11	24.77	10.57	38.5	
51 H. CEPHEI.* $\delta_0 = + 87^\circ 14' 14''.2$																			
Jan. 30	43	29.3	10	0	13.2	33.2	9	53.20	10	7.43	12	40.92	+1	3.27	+0.32	+41.68	-11.70	14	14.5
31	32	1.8	10	0	52.0	11.4	10	31.70	10	2.39	12	45.96	1	3.06	-4.03	42.06	11.90	15.1	
Feb. 1	32	38.0	10	0	48.5	7.7	10	28.10	10	5.01	12	43.34	1	3.89	-3.15	42.78	12.20	14.7	
2	35	5.2	10	0	43.8	3.4	10	23.60	10	6.02	12	42.33	1	3.67	-0.41	41.76	12.40	14.9	
5																			
8	36	59.1	10	0	32.6	55.4	10	14.00	10	3.63	12	44.72	1	1.66	+0.93	42.81	14.10	16.0	
12	42	13.3	10	0	5.3	33.3	9	49.30	9	56.43	12	51.92	0	59.16	+0.42	42.37	15.20	18.7	
14	42	57.2	10	0	9.7	30.0	9	49.85	10	2.27	12	46.08	1	0.37	+0.03	41.76	15.70	17.5	
19	37	41.3	10	0	23.8	51.9	10	7.85	10	0.50	12	47.85	1	0.38	+1.30	45.21	16.80	17.9	
22																			
26	36	52.8	10	0	12.0	33.0	9	52.50	9	42.28	13	6.07	+0	1.50	+0.65	+25.33	-18.90	14.7	
27	36	52.0	10	0	12.0	33.0	9	52.50	9	42.32	13	6.03	0	0.90	+0.49	26.34	18.60	15.2	
28	32	29.6	10	0	22.9	45.4	10	4.15	9	37.35	13	11.00	0	0.58	-3.05	26.73	18.80	16.5	
Mar. 1	33	54.7	10	0	18.8	42.7	10	0.75	9	39.46	13	8.89	0	1.53	-1.31	27.47	19.00	17.6	
3	34	3.9	10	0	16.0	41.8	9	58.90	9	38.07	13	10.28	0	0.03	-1.18	26.27	19.30	16.1	
11	41	10.0	5	4	46.7	12.2	9	29.45	9	35.91	13	12.44	0	59.86	-1.39	25.32	20.60	15.6	
14	34	50.8	10	0	8.3	38.9	9	53.60	9	36.05	13	12.30	0	58.90	-0.36	26.80	20.80	16.8	
18	34	55.8	10	0	12.8	39.1	9	55.95	9	38.98	13	9.37	0	60.60	-0.22	26.32	21.00	15.1	
28	35	22.0	10	0	5.7	35.5	9	50.60	9	35.50	13	12.85	0	59.43	+0.17	24.77	21.50	15.7	

Date. 1872.	Right Ascension Wires.											Seconds of transit over Mean Wire.	$n \tan. \delta$ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
α CANIS MAJORIS. $a_0 = 6^h 39^m 30^s.38$																
Feb. 26	5.0	7.0	9.2	13.6	15.7	17.8	19.9	22.1	26.3	28.5	30.7	17.80	-0.13	+13.04	-0.21	39 30.50
27	5.1	7.0	9.2	13.6	15.8	17.8	19.9	22.0	26.4	28.5	30.9	17.84	0.14	12.92	0.19	30.43
28	5.3	7.2	9.3	13.6	15.8	17.9	20.1	22.2	26.5	28.7	30.8	17.95	0.15	12.84	0.18	30.46
Mar. 3	5.0	7.2	9.4	13.6	15.9	17.9	20.1	22.3	26.6	28.8	30.9	17.97	0.12	12.74	-0.12	30.47
14	4.7	6.9	9.0	13.3	15.5	17.6	19.7	21.8	26.0	28.2	30.5	17.56	0.13	12.95	+0.09	30.47
18	3.3	5.5	7.7	11.9	14.0	16.2	18.4	20.7	24.9	27.0	29.2	16.26	0.14	14.20	0.16	30.48
28	2.0	4.1	6.3	10.6	12.7	14.9	17.0	19.1	23.4	25.6	27.7	14.85	0.11	15.33	0.36	30.43
ψ^7 AURIGÆ. $a_0 = 6^h 41^m 42^s.72$																
Feb. 26	13.2	15.9	18.7	24.2	26.9	29.6	32.4	35.1	40.7	43.6	46.4	29.70	+0.32	+13.04	-0.32	41 42.74
28	13.3	16.0	18.8	24.4	27.0	29.9	32.6	35.4	40.9	43.7	46.4	29.86	0.37	12.84	-0.28	42.79
Mar. 14	12.8	15.5	18.3	23.9	26.6	29.5	32.3	35.1	40.6	43.3	46.0	29.45	0.31	12.95	+0.02	42.73
θ GEMINORUM.* $a_0 = 6^h 44^m 21^s.00$																
Feb. 28	...	...	...	...	...	8.2	10.6	13.2	18.2	20.6	23.1	8.19	+0.28	+12.84	-0.24	44 21.07
Mar. 28	50.3	52.8	55.3	0.2	2.7	5.2	7.7	10.1	15.2	17.7	20.1	5.21	0.19	15.33	+0.42	21.15
15 LYNCS.* $a_0 = 6^h 46^m 11^s.18$																
Feb. 27	34.7	38.6	42.5	50.5	54.4	58.4	2.3	6.2	14.2	17.9	22.0	58.34	+0.65	+12.92	-0.58	46 11.33
28	...	...	...	50.3	54.1	58.2	2.2	6.0	...	...	...	58.16	0.69	12.84	0.57	11.12
Mar. 1	34.5	38.4	42.5	50.2	54.3	58.2	2.1	6.0	14.0	18.1	21.9	58.20	0.74	12.77	-0.55	11.16
28	31.2	35.2	39.2	47.0	51.0	55.0	58.9	3.0	10.8	14.8	18.7	54.98	0.47	15.33	+0.19	10.97
σ^1 CANIS MAJORIS. $a_0 = 6^h 48^m 49^s.29$																
Feb. 27	23.5	24.8	28.1	32.5	34.9	37.0	39.3	41.6	46.0	48.3	50.7	36.97	-0.20	+12.92	-0.39	48 49.30
Mar. 1	23.6	26.0	28.2	32.6	34.9	37.2	39.4	41.7	46.2	48.4	50.7	37.17	-0.23	12.77	-0.34	49.37
April 4	...	...	...	30.1	32.3	34.6	36.9	39.2	...	...	...	34.62	0.12	14.52	+0.34	49.36
50 DRACONIS L. C.* $a_0 = 18^h 50^m 29^s.32$																
Feb. 27	...	...	...	59.4	7.6	15.5	23.6	31.4	...	...	...	15.50	-1.52	+12.92	+2.76	50 29.66
28	...	...	...	59.4	7.8	16.1	23.6	32.2	...	...	...	15.82	1.60	12.84	2.69	29.75
Mar. 3	...	...	...	59.7	7.6	15.6	23.5	31.9	...	...	...	15.66	1.29	12.74	2.37	29.48
28	26.3	34.5	42.7	58.9	7.0	15.0	23.0	31.5	47.5	55.7	3.7	15.07	1.10	15.33	0.27	29.57
ϵ CANIS MAJORIS. $a_0 = 6^h 53^m 35^s.73$																
Feb. 27	9.6	11.9	14.1	18.9	21.3	23.6	26.0	28.3	33.2	35.5	37.8	23.66	-0.25	+12.92	-0.46	53 35.87
28	9.7	12.0	14.3	19.0	21.3	23.6	26.0	28.6	33.2	35.6	37.9	23.75	0.26	12.84	0.45	35.88
Mar. 3	9.6	11.9	14.2	19.0	21.4	23.8	26.1	28.4	33.0	35.5	37.8	23.70	0.21	12.74	-0.37	35.86
April 3	...	...	...	...	...	...	...	...	30.4	32.8	35.2	21.07	0.14	14.58	+0.28	35.79
ζ GEMINORUM.* $a_0 = 6^h 56^m 30^s.97$																
Mar. 1	5.1	7.3	9.6	13.9	16.2	18.4	20.5	22.8	27.0	29.3	31.5	18.33	+0.16	+12.76	-0.24	56 31.01
3	5.1	7.3	9.6	13.8	16.1	18.4	20.6	22.8	27.1	29.4	31.5	18.34	0.12	12.74	-0.21	30.99
21	...	...	...	12.0	14.2	16.4	18.7	20.9	...	...	...	16.44	0.16	14.32	+0.08	31.00
28	2.2	4.4	6.5	11.0	13.1	15.4	17.5	19.8	24.1	26.4	28.6	15.36	0.10	15.33	0.19	30.98
April 3	3.0	5.1	7.2	11.7	13.8	16.1	18.2	20.4	24.8	27.0	29.3	16.06	0.07	14.58	0.31	31.02
4	2.9	5.1	7.3	11.7	13.9	16.1	18.3	20.5	24.8	27.1	29.3	16.09	0.07	14.52	0.33	31.01

Date. 1871-2.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eq. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
<i>a</i> CANIS MAJORIS. $\delta_0 = -16^\circ 32' 31''.7$												
Feb. 26	m. 38 58.4	s. 50 4	47.9	23.8	54 35.85	54 12.70	31 24.35	-1 42.29	-2.30	+25.33	+10.60	32 33.0
27	38 59.8	50 4	48.9	25.6	54 37.25	54 14.61	31 26.26	1 41.28	2.45	26.34	10.70	33.0
28	38 56.3	50 4	54.5	31.2	54 42.85	54 15.68	31 27.33	1 40.76	2.43	26.73	10.70	33.1
Mar. 3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
14	39 0.4	50 4	45.7	30.7	54 38.20	54 16.56	31 28.21	1 37.95	2.22	26.80	11.60	30.0
18	38 56.6	50 4	49.7	29.3	54 39.50	54 14.71	31 26.36	1 40.81	2.21	26.32	11.70	31.4
28	39 9.9	50 4	32.1	15.2	54 23.65	54 17.36	31 29.01	1 38.84	2.07	24.77	11.80	33.3
ψ^7 AURIGÆ. $\delta_0 = +41^\circ 55' 45''.4$												
Feb. 26	41 3.8	25 3	2.0	30.0	27 46.00	27 21.69	55 26.66	-0 0.48	-0.38	+25.33	-7.83	55 43.3
28	41 18.4	25 2	48.5	17.6	27 33.05	27 21.82	55 26.53	0 0.47	0.30	26.73	8.01	44.5
Mar. 14	41 21.2	25 2	39.9	17.1	27 28.50	27 20.49	55 27.86	0 0.46	0.17	26.80	9.14	44.9
θ GEMINORUM.* $\delta_0 = +34^\circ 6' 46''.3$												
Feb. 28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mar. 28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
15 LYNCS.* $\delta_0 = +58^\circ 35' 12''.0$												
Feb. 27	45 36.0	45 3	39.7	5.7	48 22.70	48 7.45	34 40.90	+0 17.82	+0.20	+26.34	-12.40	35 12.9
28	46 19.1	45 3	10.6	36.1	47 53.40	48 7.63	34 40.72	0 17.73	0.26	26.73	12.50	12.9
Mar. 1	45 29.1	45 3	43.8	10.9	48 27.35	48 7.45	34 40.90	0 18.01	0.10	27.47	12.80	13.7
28	45 20.8	45 3	40.2	12.7	48 26.45	48 3.05	34 45.30	0 17.39	0.34	24.77	14.90	12.9
σ^1 CANIS MAJORIS. $\delta_0 = -24^\circ 1' 32''.7$												
Feb. 27	48 29.2	20 2	58.0	34.9	22 46.45	22 37.11	59 48.76	-2 19.32	-2.44	+26.34	+10.19	1 34.0
Mar. 1	48 19.7	20 3	6.9	45.8	22 56.35	22 35.25	59 46.90	2 20.80	2.39	27.47	10.50	32.1
April 4	48 10.7	20 3	17.2	1.8	23 9.50	22 40.85	59 52.50	2 14.46	2.08	25.43	11.81	31.8
50 DRACONIS L. C.* $\delta_0 = +104^\circ 43' 6''.8$												
Feb. 27	50 43.7	40 2	15.6	36.4	41 56.00	41 46.59	41 1.76	+1 56.41	+2.01	+26.34	-20.10	43 6.4
28	49 51.3	40 1	57.4	18.6	41 38.00	41 46.18	41 2.17	1 55.84	2.01	26.73	20.30	6.5
Mar. 3	50 34.4	40 2	8.3	32.8	41 50.55	41 44.31	41 4.04	1 54.77	1.96	26.27	21.20	5.8
28	49 49.9	40 1	45.1	14.7	41 29.90	41 38.31	41 10.04	1 53.57	2.16	24.77	23.30	7.2
ϵ CANIS MAJORIS. $\delta_0 = -28^\circ 47' 58''.1$												
Feb. 27	53 15.1	5 3	43.0	20.0	8 31.50	8 21.61	45 33.26	-2 57.77	-2.57	+26.34	+10.91	47 56.4
28	53 5.4	5 3	57.0	32.2	8 44.60	8 23.56	45 35.21	2 56.92	2.53	26.73	11.00	56.9
Mar. 3	53 2.4	5 4	2.1	39.8	8 50.95	8 26.46	45 38.11	2 55.27	2.52	26.27	11.44	58.2
April 3	53 42.7	5 3	14.2	57.2	8 5.70	8 30.54	45 42.19	2 50.76	2.17	24.61	11.62	58.9
ζ GEMINORUM.* $\delta_0 = +20^\circ 45' 20''.3$												
Mar. 1	56 0.8	35 3	4.3	35.9	37 50.10	37 28.63	45 19.72	-0 24.54	-1.20	+27.47	-1.50	45 20.0
3	55 58.1	35 3	6.1	39.0	37 52.55	37 27.76	45 20.59	0 23.95	1.22	26.27	1.60	21.1
21	56 21.6	35 2	37.0	8.0	37 22.50	37 28.88	45 19.47	0 24.52	0.98	28.45	2.10	20.3
28	55 58.1	35 3	0.3	37.9	37 49.10	37 27.87	45 20.48	0 23.70	0.94	24.77	2.30	18.3
April 3	55 55.2	35 3	2.8	42.0	37 52.40	37 26.75	45 21.60	0 23.34	0.97	24.61	2.50	19.4
4	55 56.6	35 3	2.2	41.2	37 51.70	37 27.77	45 20.58	0 23.45	0.96	25.43	2.50	19.1

Date.	Right Ascension Wires.											Seconds of transit over Mean Wire.	$n \tan \delta$ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
1872.	1	2	3	4	5	6	7	8	9	10	11					
γ CANIS MAJORIS. $a_0 = 6^h 57^m 58^s.08$																
Feb. 27	32.9	35.0	37.1	41.5	43.7	45.7	47.9	50.0	54.3	56.3	58.4	45.71	-0.13	+12.92	-0.37	57 58.13
Mar. 1	32.8	35.0	37.3	41.5	43.7	45.8	47.9	50.0	54.4	56.5	58.7	45.78	0.15	12.76	0.34	58.05
3	32.8	35.0	37.2	41.4	43.6	45.8	47.9	50.1	54.3	56.4	58.7	45.75	0.11	12.74	-0.29	58.09
28	30.0	32.0	34.1	38.4	40.6	42.3	44.8	47.0	51.2	53.4	55.6	42.67	0.10	15.33	+0.16	58.06
April 3	...	...	...	39.1	41.1	43.3	45.6	47.7	...	...	...	43.36	0.08	14.58	0.26	58.12
4	30.5	32.6	34.8	39.1	41.2	43.3	45.5	47.6	51.9	54.0	56.1	43.33	0.08	14.52	0.28	58.05
63 AURIGÆ.* $a_0 = 7^h 2^m 50^s.89$																
Feb. 24	...	...	...	32.4	35.0	37.6	40.3	42.9	...	...	...	37.64	+0.31	+13.33	-0.46	2 50.82
Mar. 3	22.4	25.0	27.5	32.8	35.6	38.1	40.8	43.5	49.0	51.5	54.3	38.23	0.27	12.74	0.35	50.89
19	20.4	23.0	25.8	31.1	33.7	36.4	39.1	41.7	47.1	49.7	52.4	36.40	0.29	14.22	-0.03	50.88
21	20.2	22.8	25.6	30.9	33.6	36.2	38.9	41.6	46.8	49.6	52.2	36.22	0.36	14.32	+0.01	50.91
δ CANIS MAJORIS. $a_0 = 7^h 3^m 11^s.25$																
Feb. 19	45.6	48.0	50.3	54.9	57.2	59.6	1.7	4.2	8.8	11.0	13.4	59.52	-0.23	+12.49	-0.60	3 11.18
28	45.4	47.7	49.9	54.5	56.9	59.1	1.4	3.6	8.3	10.7	12.9	59.13	0.23	12.84	0.46	11.28
Mar. 1	45.4	47.7	49.9	54.7	56.8	59.2	1.5	3.8	8.4	10.7	13.0	59.19	0.24	12.76	-0.43	11.28
28	42.2	44.5	46.8	51.5	53.7	56.0	58.4	0.6	5.1	7.4	9.8	56.00	0.17	15.33	+0.10	11.26
April 3	42.8	45.1	47.4	52.0	54.4	56.7	58.9	1.2	5.9	8.1	10.5	56.64	0.12	14.58	0.22	11.32
4	42.9	45.2	47.5	52.0	54.4	56.6	58.9	1.3	5.9	8.1	10.4	56.66	0.12	14.52	0.24	11.30
22 MONOCEROTIS. $a_0 = 7^h 5^m 19^s.70$																
Feb. 24	54.3	56.4	58.4	2.5	4.6	6.7	8.7	10.8	14.9	16.9	19.0	6.65	-0.02	+13.33	-0.36	5 19.60
27	...	...	...	...	...	...	...	...	15.3	17.5	19.5	7.15	0.02	12.92	0.32	19.73
Mar. 1	54.9	56.9	59.0	3.0	5.1	7.2	9.3	11.4	15.5	17.5	19.7	7.23	0.02	12.76	0.28	19.69
3	54.8	56.8	59.0	3.1	5.1	7.1	9.3	11.3	15.4	17.4	19.6	7.17	0.02	12.74	0.26	19.63
11	53.8	55.8	57.9	2.0	4.0	6.1	8.1	10.2	14.3	16.4	18.4	6.09	0.02	13.71	0.14	19.64
19	53.1	55.2	57.2	1.3	3.4	5.4	7.5	9.6	13.7	15.7	17.8	5.45	0.02	14.22	-0.01	19.64
21	53.0	55.1	57.2	1.3	3.3	5.4	7.5	9.5	13.7	15.7	17.8	5.41	0.02	14.32	+0.02	19.73
April 3	...	...	...	0.8	2.8	4.9	7.0	9.0	...	...	...	4.90	0.02	14.58	0.24	19.70
4	52.6	54.6	56.6	0.8	2.8	4.8	6.9	9.1	13.1	15.2	17.3	4.89	0.02	14.52	0.26	19.65
64 AURIGÆ.* $a_0 = 7^h 9^m 8^s.01$																
Feb. 19	39.4	42.0	44.9	50.4	53.0	55.7	58.6	1.3	6.7	9.3	12.0	55.76	+0.35	+12.49	-0.59	9 8.01
Mar. 1	38.9	41.5	44.4	49.8	52.5	55.4	58.0	0.8	6.3	9.0	11.7	55.30	0.39	12.76	0.44	8.01
3	...	...	...	49.8	52.6	55.2	58.0	0.8	...	...	...	55.28	0.29	12.74	0.41	7.90
11	...	...	...	48.7	51.5	54.2	57.0	59.7	...	...	...	54.22	0.33	13.71	0.24	8.02
19	37.1	39.9	42.6	48.1	50.7	53.6	56.3	59.0	4.5	7.2	10.0	53.55	0.31	14.22	0.08	8.00
21	37.1	39.6	42.4	48.0	50.6	53.3	56.2	58.8	4.3	7.0	9.7	53.36	0.38	14.32	-0.04	8.02
24	36.5	39.2	41.8	47.4	50.1	52.8	55.6	58.4	3.7	6.6	9.1	52.84	0.35	14.79	+0.02	8.00
λ GEMINORUM.* $a_0 = 7^h 10^m 44^s.16$																
Feb. 28	18.7	20.8	23.0	27.3	29.3	31.6	33.7	35.8	40.1	42.2	44.5	31.55	+0.11	+12.84	-0.32	10 44.18
Mar. 3	18.7	20.9	23.0	27.3	29.5	31.6	33.8	35.8	40.2	42.3	44.5	31.60	0.09	12.74	0.27	44.16
11	17.5	19.7	21.9	26.1	28.3	30.5	32.7	35.0	39.1	41.3	43.5	30.51	0.10	13.71	0.16	44.16
19	17.0	19.1	21.3	25.6	27.7	29.9	32.0	34.2	38.5	40.7	42.8	29.89	0.10	14.22	-0.03	44.18
21	16.8	19.0	21.1	25.3	27.6	29.7	31.9	34.0	38.2	40.4	42.6	29.69	0.12	14.32	+0.00	44.13
April 3	16.4	18.6	20.7	24.9	27.1	29.2	31.5	33.6	37.9	40.0	42.2	29.28	0.05	14.58	0.22	44.13
4	16.4	18.6	20.7	25.1	27.2	29.4	31.5	33.6	37.9	40.1	42.3	29.35	0.05	14.52	0.24	44.16

Date. 1872.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean Reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n	Red. to 1872.0.	Mean Declination for 1872.0.				
			E.	G.												
γ CANIS MAJORIS. $\delta_0 = -15^\circ 26' 45''.6$																
Feb. 27	m. 57 s. 28.4	45	4	4.1	40.3	48	52.20	48	30.32	25	41.97	-1 37.12	-2.36	+26.34	+8.17	26 46.9
Mar. 1	58 6.5	45	3	14.8	53.3	48	4.05	48	30.24	25	41.89	1 38.15	2.26	27.47	8.33	46.5
3	57 40.3	45	3	47.6	26.8	48	37.20	48	30.24	25	41.89	1 35.79	2.37	26.27	8.57	45.2
28	57 33.2	45	3	53.8	36.2	48	45.00	48	31.84	25	43.49	1 34.78	2.04	24.77	9.61	45.9
April 3	57 46.8	45	3	37.8	22.0	48	29.90	48	34.45	25	46.10	1 33.36	2.04	24.61	9.46	47.4
4	57 25.2	45	4	3.4	49.9	48	56.65	48	33.75	25	45.40	1 33.78	2.01	25.43	9.43	46.3
63 AURIGÆ.* $\delta_0 = +39^\circ 31' 35''.9$																
Feb. 24	2 51.1	50	1	25.6	0.0	51	12.80	51	26.46	31	21.89	-0 2.87	-0.26	+23.47	-6.40	31 35.8
Mar. 3	2 48.2	50	1	33.4	5.8	51	19.60	51	29.73	31	18.62	0 3.01	0.29	26.27	7.20	34.4
19	2 39.4	50	1	37.0	8.9	51	22.95	51	25.99	31	22.36	0 2.99	0.20	25.57	8.40	36.3
21	2 14.4	50	2	7.0	37.0	51	52.00	51	29.94	31	18.41	0 3.07	0.35	28.45	8.50	34.9
δ CANIS MAJORIS. $\delta_0 = -26^\circ 11' 30''.1$																
Feb. 19	2 42.7	30	3	6.9	48.8	32	57.85	32	38.07	9	49.72	-2 33.33	-2.34	+45.21	+10.96	11 29.2
28	2 40.4	30	2	52.9	30.0	32	41.45	32	19.43	9	31.08	2 34.27	2.39	26.73	10.24	30.8
Mar. 1	2 43.6	30	2	48.0	26.3	32	37.15	32	18.78	9	30.43	2 36.57	2.41	27.47	10.46	31.5
28	2 34.0	30	2	57.8	42.2	32	50.00	32	24.09	9	35.74	2 31.15	2.13	24.77	12.30	31.9
April 3	2 40.7	30	2	51.4	36.5	32	43.95	32	25.23	9	36.88	2 28.94	2.18	24.61	12.23	31.2
4	2 44.0	30	2	47.1	32.4	32	39.75	32	24.79	9	36.44	2 29.58	2.20	25.43	12.21	30.6
22 MONOCEROTIS. $\delta_0 = -0^\circ 16' 57''.4$																
Feb. 24	4 46.5	35	4	55.2	35.3	39	45.25	39	18.74	16	30.39	-0 53.24	-1.94	+23.47	+4.28	16 57.8
27	4 45.4	35	4	0.8	36.2	39	48.50	39	20.02	15	31.67	0 56.44	2.09	26.34	4.42	59.4
Mar. 1	4 52.0	35	4	51.7	28.5	39	40.10	39	20.16	16	31.81	0 57.05	2.08	27.47	4.54	58.9
3	4 50.1	35	4	54.7	32.0	39	43.35	39	20.91	16	32.56	0 55.68	2.08	26.27	4.62	59.4
11	4 49.2	35	4	52.8	32.0	39	42.40	39	20.22	16	31.87	0 55.44	2.08	25.32	4.83	59.2
19	4 47.7	35	4	55.5	34.0	39	44.75	39	21.52	16	33.17	0 55.28	1.85	25.57	4.93	59.8
21	4 46.2	35	4	58.3	34.0	39	46.15	39	20.85	16	32.50	0 56.97	1.85	28.45	4.93	58.0
April 3	5 17.8	35	4	13.8	56.9	39	5.35	39	22.28	16	33.93	0 54.27	1.65	24.61	4.76	60.5
4	4 45.2	35	4	56.8	39.7	39	48.25	39	22.40	16	34.05	0 54.51	1.66	25.43	4.75	60.0
64 AURIGÆ.* $\delta_0 = +41^\circ 6' 28''.7$																
Feb. 19	8 32.6	15	2	33.4	10.2	17	21.80	16	58.86	5	49.49	-0 1.35	-0.35	+45.21	-6.10	6 26.9
Mar. 1	8 33.6	15	2	14.3	46.2	17	0.25	16	38.79	6	9.56	0 1.38	0.38	27.47	7.30	28.0
3	8 54.3	15	1	52.4	24.8	16	38.60	16	37.61	6	10.74	0 1.34	0.21	26.27	7.50	28.0
11	8 49.7	15	1	55.0	27.0	16	41.00	16	36.55	6	11.80	0 1.34	0.23	25.32	8.20	27.3
19	8 54.8	15	1	48.6	20.2	16	34.40	16	35.69	6	12.66	0 1.33	0.13	25.57	8.80	28.0
21	8 30.9	15	2	15.0	46.2	17	0.60	16	38.35	6	10.00	0 1.37	0.28	28.45	9.00	27.8
24	8 39.6	15	2	1.3	34.0	16	47.65	16	34.60	6	13.75	0 1.36	0.19	25.34	9.20	28.3
λ GEMINORUM.* $\delta_0 = +16^\circ 46' 8''.3$																
Feb. 28	10 18.2	35	2	6.2	41.2	36	53.70	36	36.99	46	11.36	-0 29.26	-1.24	+26.73	-0.10	46 7.5
Mar. 3	10 11.7	35	2	13.8	49.0	37	1.40	36	36.39	46	11.96	0 28.99	1.28	26.27	0.20	7.8
11	10 13.7	35	2	7.8	45.8	36	56.80	36	35.69	46	12.66	0 28.86	1.27	25.32	0.40	7.4
19	10 10.7	35	2	11.0	47.3	36	59.15	36	35.03	46	13.32	0 28.79	1.18	25.57	0.70	8.2
21	10 36.8	35	1	43.1	17.1	36	30.10	36	39.02	46	9.33	0 29.66	1.12	28.45	0.70	6.3
April 3	10 11.4	35	2	7.9	49.5	36	58.70	36	36.21	46	12.14	0 28.26	1.11	24.61	1.10	6.3
4	10 30.0	35	1	43.8	25.1	36	34.45	36	35.33	46	13.02	0 28.39	1.05	25.43	1.20	7.8

Date. 1872.	Right Ascension Wires.											Seconds of Transit over Mean Wire.	n tang. δ + κ .	$\Delta T' + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
δ GEMINORUM.* $\alpha_0 = 7^h 12^m 28^s.62$																
Feb. 19	3.1	5.3	7.5	11.9	14.2	16.4	18.6	20.8	25.3	27.5	29.8	16.40	+0.16	+12.49	-0.45	12 28.60
Mar. 1	2.7	4.9	7.2	11.6	13.8	16.0	18.3	20.5	24.9	27.2	29.4	16.05	0.17	12.76	0.33	28.65
11	...	...	...	...	...	...	...	...	23.8	26.1	28.2	14.94	0.15	13.71	0.18	28.62
19	1.0	3.2	5.4	9.9	12.1	14.3	16.5	18.8	23.2	25.4	27.7	14.32	0.14	14.22	0.04	28.64
21	0.9	3.1	5.3	9.8	12.0	14.3	16.4	18.6	23.0	25.3	27.5	14.20	0.17	14.32	0.01	28.68
δ DRACONIS L. C.* $\alpha_0 = 19^h 12^m 31^s.15$																
Feb. 28	45.4	50.4	55.7	6.3	11.9	17.3	22.6	28.1	38.6	44.1	49.3	17.25	-1.01	+12.84	+2.24	12 31.32
Mar. 3	...	...	...	6.3	11.9	17.4	22.5	27.9	...	...	...	17.20	0.82	12.74	2.05	31.17
24	44.7	49.8	55.0	6.0	11.0	16.5	21.9	27.1	38.1	43.3	48.6	16.55	0.97	14.79	0.87	31.24
April 3	44.8	50.0	55.5	6.3	11.7	17.0	22.3	27.9	38.6	43.9	49.3	17.03	0.49	14.58	0.27	31.39
66 AURIGÆ. $\alpha_0 = 7^h 15^m 16^s.45$																
Feb. 19	48.0	50.6	53.3	58.8	1.6	4.3	7.0	9.7	15.0	17.9	20.6	4.25	+0.35	+12.49	-0.62	15 16.47
Mar. 3	47.4	50.1	52.8	58.3	1.0	3.7	6.4	9.2	14.6	17.3	20.0	3.71	0.29	12.74	0.43	16.31
19	45.7	48.4	51.2	56.6	59.2	2.0	4.8	7.4	13.0	15.7	18.3	2.03	0.31	14.22	0.12	16.44
21	45.4	48.2	50.9	56.4	59.2	1.8	4.5	7.2	12.6	15.3	18.1	1.78	0.38	14.32	0.08	16.40
24	44.9	47.6	50.4	55.9	58.6	1.2	4.0	6.8	12.1	15.0	17.7	1.29	0.35	14.79	-0.02	16.41
27	44.5	47.2	49.8	55.3	58.1	0.9	3.5	6.3	11.8	14.5	17.1	0.82	0.27	15.30	+0.05	16.44
April 3	...	...	...	55.9	58.7	1.4	4.1	7.0	...	...	...	1.42	0.17	14.58	0.20	16.37
4	45.1	47.9	50.6	56.0	58.8	1.6	4.2	6.9	12.4	15.1	17.9	1.50	0.17	14.52	0.22	16.41
ι GEMINORUM.* $\alpha_0 = 7^h 17^m 46^s.50$																
Feb. 19	20.3	22.6	25.0	29.7	32.0	34.3	36.7	39.0	43.5	46.0	48.4	34.32	+0.21	+12.49	-0.50	17 46.52
Mar. 3	...	...	...	29.3	31.5	33.9	36.2	38.6	...	...	...	33.90	0.17	12.74	0.35	46.46
11	18.7	21.0	23.4	28.1	30.4	32.7	35.0	37.4	42.1	44.4	46.7	32.72	0.19	13.71	0.23	46.39
19	18.1	20.5	22.8	27.5	29.8	32.2	34.6	36.8	41.4	43.8	46.2	32.15	0.18	14.22	-0.10	46.45
24	17.6	20.0	22.2	26.9	29.1	31.6	33.8	36.1	40.9	43.2	45.6	31.54	0.20	14.79	+0.00	46.53
27	17.0	19.3	21.6	26.3	28.6	31.0	33.3	35.6	40.4	42.7	45.0	30.98	0.16	15.30	0.05	46.49
April 3	17.7	20.0	22.3	26.8	29.3	31.7	34.0	36.2	40.8	43.3	45.6	31.61	0.10	14.58	0.19	46.48
η CANIS MAJORIS. $\alpha_0 = 7^h 19^m 1^s.94$																
Feb. 28	36.0	38.2	40.5	45.2	47.5	49.9	52.3	54.7	59.4	1.7	4.0	49.95	-0.26	+12.84	-0.57	19 1.96
Mar. 3	35.9	38.2	40.5	45.3	47.6	49.9	52.3	54.6	59.4	1.7	4.2	49.96	0.21	12.74	0.50	1.99
11	46.4	48.5	50.7	54.8	56.8	58.9	1.0	3.0	7.2	9.4	11.5	58.93	0.24	13.71	0.35	2.05
19	34.1	36.3	38.7	43.4	45.8	48.1	50.6	52.9	57.6	0.1	2.4	48.18	0.23	14.22	0.19	1.98
21	34.0	36.3	38.6	43.4	45.8	48.2	50.6	53.0	57.7	0.0	2.2	48.16	0.27	14.32	-0.15	2.06
April 3	33.4	35.7	37.9	42.7	45.1	47.4	49.8	52.2	56.8	59.1	1.6	47.43	0.14	14.58	+0.13	2.00
4	33.4	35.7	38.0	42.7	45.1	47.5	49.8	52.2	56.9	59.2	1.6	47.46	0.14	14.52	+0.15	1.99
β CANIS MINORIS.* $\alpha_0 = 7^h 20^m 12^s.50$																
Feb. 19	...	...	...	56.4	58.4	0.3	2.6	4.7	...	...	...	0.48	+0.05	+12.49	-0.46	20 12.56
Mar. 1	47.5	49.6	51.7	55.9	58.0	0.1	2.1	4.2	8.4	10.6	12.6	0.06	0.05	12.76	0.35	12.52
19	...	...	...	...	...	...	0.4	2.6	6.8	8.9	10.9	58.40	0.04	14.22	-0.09	12.57
27	44.6	46.8	48.8	53.0	55.0	57.1	59.2	1.3	5.5	7.4	9.6	57.12	0.03	15.30	+0.04	12.49

Date. 1872.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.							
			E.	G.															
δ GEMINORUM.* $\delta_0 = + 22^\circ 12' 56''.3$																			
Feb. 19	m. 11	s. 58.4	10	0	46.1	20.8	10	33.45	10	11.58	12	36.77	-0	22.34	-0.90	+45.21	-2.30	12	56.4
Mar. 1	11	56.0	10	0	33.3	4.7	10	19.00	9	54.70	12	53.65	0	22.76	0.92	27.47	2.80	54.6	
11	12	36.6	5	4	39.8	12.6	9	26.20	9	52.56	12	55.79	0	22.12	1.36	25.32	3.20	54.4	
19	11	58.6	10	0	24.5	57.2	10	10.85	9	51.68	12	56.67	0	22.06	0.88	25.57	3.50	55.8	
21	11	52.4	10	0	35.8	4.9	10	20.35	9	53.86	12	54.49	0	22.73	0.94	28.45	3.60	55.7	
δ DRACONIS L. C.* $\delta_0 = + 112^\circ 33' 49''.8$																			
Feb. 28	12	32.6	50	2	25.0	45.3	52	5.15	51	57.40	30	50.95	+2	47.84	+2.06	+26.73	-19.40	33	48.2
Mar. 3	12	4.2	50	2	5.7	28.2	51	46.95	51	53.50	30	54.85	2	46.27	2.07	26.27	20.30	49.2	
24	12	25.8	50	2	13.0	37.4	51	55.20	51	50.51	30	57.84	2	48.22	2.15	25.34	23.00	50.6	
April 3	12	35.8	50	2	10.9	39.9	51	55.40	51	45.94	31	2.41	2	42.05	2.28	24.61	23.20	48.2	
66 AURIGÆ. $\delta_0 = + 40^\circ 54' 59''.0$																			
Feb. 19	14	40.6	25	4	4.7	39.1	28	51.90	28	28.40	54	19.95	-0	1.55	-0.47	+45.21	-5.93	54	57.1
Mar. 3	14	39.4	25	3	46.0	17.6	28	31.80	28	7.71	54	40.64	0	1.54	0.55	26.27	7.39	57.3	
19	14	38.3	25	3	43.0	15.3	28	29.15	28	5.65	54	42.70	0	1.54	0.37	25.57	8.81	57.4	
21	14	39.4	25	3	46.0	16.3	28	31.15	28	8.94	54	39.41	0	1.58	0.35	28.45	8.95	57.0	
24	14	55.3	25	3	25.2	58.1	28	11.65	28	5.70	54	42.65	0	1.56	0.23	25.34	9.14	57.1	
27	14	39.5	25	3	39.5	13.6	28	26.55	28	5.43	54	42.92	0	1.53	0.20	25.01	9.30	56.9	
April 3	15	9.3	25	3	8.8	45.7	27	57.25	28	5.09	54	43.26	0	1.51	0.10	24.61	9.59	56.7	
4	14	38.1	25	3	40.5	17.4	28	28.95	28	5.75	54	42.60	0	1.57	0.22	25.43	9.62	56.6	
ι GEMINORUM.* $\delta_0 = + 28^\circ 3' 0''.4$																			
Feb. 19	17	12.8	20	0	53.2	27.2	20	40.20	20	15.30	2	33.05	-0	15.55	-0.72	+45.21	-2.90	2	59.1
Mar. 3	17	30.7	20	0	12.5	42.7	19	57.60	19	53.90	2	54.45	0	15.47	1.06	26.27	3.50	60.7	
11	17	31.1	20	0	8.7	41.9	19	55.30	19	53.45	2	54.90	0	15.39	1.06	25.32	4.00	59.8	
19	17	38.2	20	0	0.2	31.3	19	45.75	19	52.70	2	55.65	0	15.36	0.81	25.57	4.40	60.6	
24	17	12.2	20	0	28.1	1.1	20	14.60	19	52.25	2	56.10	0	15.64	0.67	25.34	4.70	60.4	
27	17	10.5	20	0	29.9	4.4	20	17.15	19	53.41	2	54.94	0	15.35	0.66	25.01	4.80	59.1	
April 3	17	7.3	20	0	32.8	8.8	20	20.80	19	52.66	2	55.69	0	15.08	0.70	24.61	5.10	59.4	
η CANIS MAJORIS. $\delta_0 = - 29^\circ 3' 18''.0$																			
Feb. 28	18	24.6	20	4	19.9	57.2	24	8.55	23	39.53	0	51.18	-2	59.77	-2.50	+26.73	+10.19	3	16.5
Mar. 3	18	30.5	20	4	16.3	53.1	24	4.70	23	42.33	0	53.98	2	58.07	2.56	26.27	10.74	17.6	
11																			
19	18	33.5	20	4	11.8	50.2	24	1.00	23	44.14	0	55.79	2	56.72	2.39	25.57	12.28	17.0	
21	18	58.4	20	3	40.2	16.7	23	28.45	23	40.15	0	51.80	3	2.20	2.39	28.45	12.41	15.5	
April 3	18	21.5	20	4	27.0	10.0	24	18.50	23	48.79	1	0.44	2	53.56	2.12	24.61	12.83	18.7	
4	18	27.0	20	4	20.2	2.8	24	11.50	23	47.98	0	59.63	2	54.29	2.19	25.43	12.84	17.8	
β CANIS MINORIS.* $\delta_0 = + 8^\circ 32' 42''.3$																			
Feb. 19	20	11.5	50	0	7.6	45.8	49	56.70	50	10.97	32	37.38	-0	40.79	-1.33	+45.21	+1.90	32	42.4
Mar. 1	19	41.8	50	0	30.2	6.0	50	18.10	49	54.35	32	54.00	0	41.54	1.38	27.47	2.10	40.6	
19	20	10.1	45	4	49.7	24.8	49	37.25	49	52.43	32	55.92	0	40.27	1.56	25.57	2.00	41.6	
27	19	37.5	50	0	27.8	6.9	50	17.35	49	51.92	32	56.43	0	40.26	1.36	25.01	1.90	41.7	

Date. 1872.		Right Ascension Wires.										Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
		1	2	3	4	5	6	7	8	9	10						11
ρ GEMINORUM.* $a_0 = 7^h 20^m 52^s.51$																
Feb. 24	25.0	27.3	29.8	34.8	37.1	39.4	41.9	44.4	49.2	51.6	54.1	39.51	+0.23	+13.33	-0.50	20 52.57
Mar. 3	25.4	27.9	30.3	35.2	37.6	40.0	42.4	44.9	49.7	52.1	54.5	40.00	0.21	12.74	0.40	52.55
21	23.5	25.9	28.4	33.1	35.7	38.0	40.5	42.9	47.8	50.3	52.7	38.07	0.27	14.32	0.10	52.56
24	22.9	25.3	27.9	32.8	35.3	37.6	40.1	42.4	47.3	49.8	52.1	37.59	0.25	14.79	-0.04	52.59
April 3	23.1	25.5	27.9	32.7	35.3	37.6	40.1	42.5	47.3	49.8	52.1	37.63	0.12	14.58	+0.16	52.49
4	23.2	25.6	28.0	32.9	35.3	37.8	40.2	42.6	47.6	49.9	52.4	37.77	0.12	14.52	+0.18	52.59
6 CANIS MINORIS. $a_0 = 7^h 22^m 40^s.20$																
Feb. 19	15.4	17.7	19.8	24.0	26.1	28.2	30.3	32.3	36.5	38.7	40.9	28.17	+0.08	+12.49	-0.46	22 40.28
24	14.7	16.7	18.8	22.9	25.1	27.2	29.3	31.5	35.7	37.8	40.0	27.25	0.07	13.33	0.42	40.23
Mar. 1	15.1	17.2	19.3	23.6	25.7	27.8	29.9	32.0	36.2	38.3	40.5	27.78	0.09	12.76	0.35	40.28
3	15.1	17.2	19.3	23.6	25.6	27.8	29.9	32.0	36.2	38.3	40.4	27.76	0.06	12.74	0.32	40.24
11	14.1	16.1	18.3	22.5	24.5	26.8	28.8	31.0	35.2	37.2	39.3	26.71	0.06	13.71	0.18	40.30
19	13.4	15.6	17.6	21.8	24.0	26.0	28.2	30.4	34.5	36.6	38.7	26.07	0.07	14.22	0.10	40.26
21	13.3	15.4	17.5	21.6	23.8	25.9	28.0	30.2	34.3	36.5	38.5	25.91	0.08	14.32	0.06	40.25
24	12.8	15.0	17.0	21.2	23.2	25.3	27.5	29.7	33.8	36.0	38.0	25.41	0.08	14.79	-0.01	40.27
27	12.2	14.3	16.4	20.7	22.7	24.9	26.9	29.1	33.3	35.4	37.5	24.85	0.06	15.30	+0.04	40.25
April 3	12.8	14.9	16.9	21.2	23.3	25.5	27.5	29.6	33.8	36.0	38.1	25.42	0.03	14.58	+0.16	40.19
$a_1 \dots a_2$ GEMINORUM.* $a_0 = 7^h 26^m 25^s.56$																
Feb. 19	58.8	1.5	3.8	8.7	11.2	13.6	16.0	18.5	23.4	25.7	28.3	13.59	+0.25	+12.49	-0.58	26 25.75
24	58.3	0.6	3.0	8.0	10.4	12.7	15.1	17.7	22.4	24.9	27.4	12.77	0.23	13.33	0.53	25.80
Mar. 1	58.7	1.0	3.4	8.4	10.8	13.1	15.6	18.0	22.8	25.6	28.0	13.22	0.27	12.76	0.46	25.79
11	57.5	0.0	2.4	7.3	9.8	12.3	14.6	17.0	21.9	24.3	26.7	12.16	0.23	13.71	0.31	25.79
19	56.6	59.0	1.3	6.3	8.7	11.1	13.4	15.9	20.9	23.3	25.7	11.11	0.22	14.22	0.18	25.37
19	57.0	59.4	1.7	6.6	9.0	11.5	13.8	16.4	21.3	23.7	26.2	11.51	0.22	14.22	0.18	25.77
21	56.4	58.8	1.3	6.1	8.6	11.0	13.5	15.8	20.8	22.1	25.5	10.90	0.27	14.32	0.14	25.35
21	56.8	59.2	1.7	6.5	9.0	11.5	13.9	16.2	21.1	22.4	25.9	11.29	0.27	14.32	0.14	25.74
24	56.0	58.3	0.8	4.6	8.0	10.5	12.9	15.3	20.3	22.7	25.0	10.40	0.25	14.79	0.08	25.36
24	56.4	58.6	1.0	4.9	8.4	10.9	13.3	15.7	20.7	23.0	25.5	10.76	0.24	14.79	0.08	25.71
27	55.4	57.8	0.1	5.0	7.4	9.9	12.3	14.7	19.6	22.1	24.4	9.88	0.19	15.30	0.03	25.34
27	55.7	58.1	0.5	5.4	7.8	10.3	12.7	15.1	20.0	22.5	24.8	10.26	0.19	15.30	-0.03	25.72
April 3	...	...	...	5.7	8.1	10.7	13.0	15.5	...	...	...	10.60	0.12	14.58	+0.11	25.41
3	...	...	...	6.1	8.6	11.1	13.4	15.8	...	...	...	11.00	0.12	14.58	+0.11	25.81
o GEMINORUM. $a_0 = 7^h 30^m 48^s.45$																
Feb. 19	21.2	23.8	26.3	31.2	33.9	36.3	38.9	41.4	46.3	48.9	51.4	36.33	+0.28	+12.50	-0.62	30 48.49
24	20.4	22.8	25.4	30.4	33.0	35.4	37.9	40.4	45.4	48.0	50.4	35.41	0.26	13.34	0.57	48.44
Mar. 11	...	...	...	30.0	32.3	34.8	37.4	40.0	...	...	...	34.90	0.26	13.71	0.35	48.52
19	19.1	21.7	24.2	29.2	31.6	34.2	36.7	39.2	44.2	46.7	49.3	34.19	0.25	14.22	-0.20	48.46
April 3	18.6	21.0	23.5	28.5	31.0	33.5	36.1	38.6	43.6	46.1	48.7	33.56	0.13	14.58	+0.09	48.36
4	18.6	21.1	23.6	28.7	31.2	33.7	36.1	38.7	43.7	46.2	48.8	33.67	0.14	14.52	+0.11	48.44
a CANIS MINORIS.* $a_0 = 7^h 32^m 35^s.97$																
Feb. 19	11.4	13.6	15.7	19.7	22.0	24.1	26.2	28.2	32.1	34.2	36.4	23.96	+0.03	+12.50	-0.49	32 36.00
24	10.7	12.8	14.8	19.0	21.0	23.1	25.2	27.2	31.3	33.5	35.4	23.09	0.02	13.34	0.45	36.00
Mar. 1	11.3	13.2	15.3	19.4	21.5	23.6	25.7	27.8	31.9	33.8	36.2	23.61	0.03	12.76	0.39	36.01
3	11.1	13.2	15.2	19.5	21.6	23.7	25.7	27.8	31.8	33.9	36.0	23.59	0.02	12.74	0.37	35.98
11	...	...	...	22.5	24.5	26.6	30.8	32.9	34.9	...	...	22.48	0.02	13.71	0.25	35.96
14	11.0	13.0	15.0	19.1	21.1	23.2	25.2	27.4	31.5	33.6	35.7	23.25	0.02	12.93	0.21	35.99
19	9.4	11.5	13.7	17.7	19.8	22.0	24.0	26.0	30.1	32.2	34.3	21.88	0.02	14.22	-0.13	35.99
April 3	8.8	11.0	13.0	17.1	19.2	21.3	23.4	25.4	29.6	31.6	33.7	21.28	0.01	14.58	+0.10	35.97
4	8.9	11.0	13.1	17.1	19.2	21.3	23.4	25.4	29.6	31.7	33.8	21.32	0.01	14.52	0.12	35.97
10	...	...	...	18.4	20.6	22.6	24.7	26.7	...	...	...	22.60	0.00	13.12	0.21	35.93

Date. 1872.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.								
			E.	G.																
ρ GEMINORUM.* $\delta_0 = + 32^\circ 2' 10''.8$																				
Feb. 24	m. 20	s. 17.6	20	1	22.0	58.6	21	10.30	20	45.94	2	2.41	-0	10.56	-0.61	+23.47	-4.10	2	10.6	
Mar. 3	20	15.6	20	1	28.1	0.3	21	14.20	20	47.06	2	1.29	0	11.04	0.69	26.27	4.80		11.0	
	21	20	22.4	20	1	19.8	50.4	21	5.10	20	47.63	2	0.72	0	11.29	0.53	28.45	6.00	11.3	
	24	20	19.0	20	1	19.0	51.2	21	5.10	20	44.41	2	3.94	0	11.17	0.55	25.34	6.10	11.5	
April 3	20	22.7	20	1	11.4	50.1	21	0.75	20	44.17	2	4.18	0	10.77	0.48	24.61	6.50	11.0		
	4	20	18.1	20	1	17.9	56.2	21	7.05	20	45.13	2	3.22	0	10.81	0.52	25.43	6.60	10.7	
6 CANIS MINORIS. $\delta_0 = + 12^\circ 16' 9''.7$																				
Feb. 19	22	9.1	5	2	25.9	4.1	7	15.00	6	50.51	15	57.84	-0	35.31	-1.36	+45.21	+1.09	16	7.5	
24	22	7.4	5	2	5.7	45.6	6	55.65	6	30.26	16	18.09	0	33.55	1.35	23.47	1.09		7.7	
Mar. 1	22	9.7	5	2	8.9	44.0	6	56.45	6	33.24	16	15.11	0	35.94	1.40	27.47	1.08		6.3	
	3	22	10.2	5	2	5.9	41.6	6	53.75	6	31.18	16	17.17	0	35.10	1.40	26.27	1.07	8.0	
	11	22	8.9	5	2	5.1	41.6	6	53.35	6	30.52	16	17.83	0	34.46	1.40	25.32	0.98	8.3	
	19	22	6.7	5	2	9.0	44.8	6	56.90	6	32.03	16	16.32	0	34.86	1.30	25.57	0.83	6.6	
	21	22	16.3	5	1	58.1	31.6	6	44.85	6	32.54	16	15.81	0	35.90	1.28	28.45	0.79	7.9	
	24	22	3.0	5	2	11.1	48.8	6	59.95	6	31.23	16	17.12	0	35.49	1.32	25.34	0.72	6.4	
	27	22	5.5	5	2	5.7	44.4	6	55.05	6	30.18	16	18.17	0	34.84	1.23	25.01	0.64	7.7	
April 3	22	6.5	5	2	5.8	46.3	6	56.05	6	31.82	16	16.53	0	34.22	1.23	24.61	0.46		6.1	
$\alpha_1 \dots \alpha_2$ GEMINORUM.* $\delta_0 = + 32^\circ 10' 0''.0$																				
Feb. 19	25	48.7	10	3	59.4	35.0	13	47.20	13	19.54	9	28.81	-0	10.97	-0.83	+45.21	-3.50	9	58.7	
24	25	53.8	10	3	30.2	7.3	13	18.75	12	57.64	9	50.71	0	10.43	0.72	23.47	3.90		59.1	
Mar. 1	25	54.2	10	3	35.5	6.8	13	21.15	13	0.04	9	48.31	0	11.17	0.82	27.47	4.40		59.4	
	11	25	53.5	10	3	31.2	5.9	13	18.55	12	57.78	9	50.57	0	10.85	0.82	25.32	5.40	58.8	
	19	25	48.4	10	3	36.6	9.7	13	23.15	12	57.93	9	50.42	0	10.83	0.71	25.57	5.80	58.6	
	19	25	50.9	10	3	36.6	9.7	13	23.15	13	0.27	9	48.08	0	10.83	0.68	25.57	5.80	56.3	
	21	25	42.5	10	3	46.3	16.3	13	31.30	12	59.75	9	48.60	0	11.16	0.78	28.45	5.90	59.2	
	21	25	45.3	10	3	46.3	16.3	13	31.30	13	2.42	9	45.93	0	11.16	0.75	28.45	5.90	56.6	
	24	25	46.5	10	3	37.1	11.3	13	24.20	12	57.65	9	50.70	0	11.03	0.72	25.34	6.10	58.2	
	24	25	48.8	10	3	37.1	11.3	13	24.20	12	59.73	9	48.62	0	11.03	0.69	25.34	6.10	56.1	
	27	25	48.1	10	3	34.9	10.9	13	22.90	12	58.70	9	49.65	0	10.83	0.55	25.01	6.20	57.1	
	27	25	46.0	10	3	34.9	10.9	13	22.90	12	55.90	9	52.45	0	10.83	0.58	25.01	6.20	59.8	
April 3	25	56.3	10	3	25.3	4.3	13	14.80	12	57.38	9	50.97	0	10.64	0.49	24.61	6.50		57.9	
	3	25	54.2	10	3	25.3	4.3	13	14.80	12	56.14	9	52.21	0	10.64	0.51	24.61	6.50		59.2
o GEMINORUM. $\delta_0 = + 34^\circ 52' 36''.5$																				
Feb. 19	30	13.9	30	1	26.3	0.8	31	13.55	30	49.43	51	58.92	-0	8.02	-0.31	+45.21	-4.04	52	31.8	
24	30	13.1	30	1	5.3	40.6	30	52.95	30	28.94	52	19.41	0	7.63	0.31	23.47	4.54		30.4	
Mar. 11	30	53.3	30	0	22.6	55.3	30	8.95	30	28.76	52	19.59	0	7.93	0.27	25.32	6.00		30.7	
	19	30	20.2	30	0	56.8	29.7	30	43.25	30	28.18	52	20.17	0	7.92	0.24	25.57	6.62	31.0	
April 3	30	19.5	30	0	54.0	30.3	30	42.15	30	26.97	52	21.38	0	7.78	0.24	24.61	7.52		30.5	
	4	30	13.5	30	1	1.5	37.7	30	49.60	30	27.86	52	20.49	0	7.81	0.29	25.43	7.57	30.3	
a CANIS MINORIS.* $\delta_0 = + 5^\circ 33' 3''.1$																				
Feb. 19	32	6.5	50	0	20.0	58.7	50	9.85	49	46.99	33	1.36	-0	45.59	-0.86	+45.21	+2.70	33	2.8	
24	32	6.6	45	4	56.3	36.1	49	46.20	49	24.65	33	23.70	0	43.33	0.86	23.47	2.90		5.9	
Mar. 1	32	8.9	45	4	59.0	33.2	49	46.10	49	26.90	33	21.45	0	46.41	0.86	27.47	3.10		4.7	
	3	32	6.2	50	0	2.0	38.1	49	50.05	49	27.32	33	21.03	0	45.33	0.86	26.27	3.10	4.2	
	11	32	46.3	50	0	5.9	43.2	48	54.55	49	25.64	33	22.71	0	45.08	0.87	25.32	3.20	5.3	
	14	(32	3.4)	50	0	1.2	40.6	48	50.90	49	24.91	33	23.44	0	44.50	0.87	26.80	3.20	(8.1)	
	19	32	4.3	50	0	0.6	37.6	49	49.10	49	26.11	33	22.24	0	45.02	0.86	25.57	3.20	5.1	
April 3	32	6.1	45	4	56.0	37.2	49	46.60	49	26.75	33	21.60	0	44.20	0.86	24.61	3.00		4.1	
	4	32	2.4	50	0	0.2	41.7	49	50.95	49	26.26	33	22.09	0	44.38	0.87	25.43	3.00	5.3	
	10	32	35.7	45	4	19.4	6.3	49	12.85	49	29.96	33	18.39	0	43.36	0.86	26.40	2.90	3.5	

Date.	Right Ascension Wires.											Seconds of transit over Mean Wire.	$n \tan \delta$ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
1872.	1	2	3	4	5	6	7	8	9	10	11					
26 MONOCEROTIS. $\alpha_0 = 7^h 35^m 7^s.90$																
Feb. 24	42.6	44.7	46.9	51.0	53.1	55.1	57.2	59.4	3.5	5.6	7.6	55.15	-0.08	+13.34	-0.51	35 7.90
Mar. 3	43.4	45.4	47.4	51.5	53.6	55.7	57.9	0.0	4.2	6.1	8.3	55.77	0.07	12.74	0.42	8.02
14	42.9	45.0	47.1	51.2	53.2	55.3	57.4	59.5	3.6	5.7	7.8	55.34	0.07	12.93	0.26	7.94
18	41.4	43.5	45.7	49.7	51.9	54.0	56.1	58.2	2.4	4.5	6.5	53.99	0.08	14.20	0.20	7.91
19	41.5	43.5	45.6	49.8	51.9	54.0	56.1	58.1	2.4	4.4	6.5	53.98	0.08	14.22	-0.18	7.94
April 3	40.7	42.8	45.0	49.1	51.2	53.4	55.4	57.6	1.7	3.7	5.8	53.31	0.05	14.58	+0.07	7.91
4	40.8	42.9	45.0	49.3	51.4	53.4	55.4	57.5	1.7	3.8	5.9	53.37	0.05	14.52	+0.08	7.92
β GEMINORUM.* $\alpha_0 = 7^h 37^m 28^s.84$																
Feb. 19	2.6	5.1	7.4	12.1	14.4	16.8	19.1	21.4	26.1	28.4	30.8	16.75	+0.21	+12.50	-0.57	37 28.89
24	1.8	4.2	6.5	11.2	13.5	15.9	18.2	20.6	25.2	27.6	30.0	15.88	0.20	13.34	0.53	28.89
Mar. 3	2.4	4.7	7.0	11.7	14.0	16.4	18.8	21.0	25.7	28.1	30.4	16.38	0.17	12.74	0.45	28.84
11	1.4	3.6	6.0	10.6	13.0	15.3	17.7	20.0	24.6	27.0	29.4	15.33	0.20	13.71	0.33	28.91
14	2.0	4.3	6.6	11.4	13.6	16.0	18.4	20.7	25.4	27.6	30.0	16.00	0.18	12.93	0.28	28.83
18	0.6	3.0	5.3	10.0	12.3	14.7	17.0	19.3	24.0	26.3	28.6	14.65	0.21	14.20	0.22	28.84
19	0.6	3.0	5.2	10.0	12.3	14.6	17.0	19.3	24.0	26.3	28.7	14.64	0.19	14.22	0.20	28.85
24	59.9	2.4	4.6	9.3	11.6	14.0	16.4	18.6	23.3	25.5	28.0	13.96	0.21	14.79	-0.12	28.84
April 3	0.0	2.4	4.7	9.4	11.7	14.1	16.6	18.8	23.5	25.8	28.1	14.10	0.10	14.58	+0.06	28.84
4	0.1	2.4	4.8	9.3	11.7	14.0	16.4	18.7	23.5	25.8	28.1	14.07	0.10	14.52	0.08	28.77
10	1.4	3.7	6.1	10.8	13.1	15.5	17.7	20.1	24.8	27.1	29.4	15.43	0.08	13.12	0.23	28.86
4 NAVIS. $\alpha_0 = 7^h 40^m 3^s.25$																
Feb. 24	37.8	40.0	42.1	46.3	48.4	50.6	52.8	54.8	59.1	1.1	3.3	50.57	-0.12	+13.34	-0.56	40 3.23
Mar. 3	38.3	40.5	42.7	46.9	49.0	51.2	53.3	55.3	59.6	1.6	3.8	51.11	0.11	12.74	0.46	3.28
18	36.7	38.8	40.8	45.1	47.4	49.5	51.6	53.7	57.9	0.1	2.1	49.43	0.12	14.20	0.24	3.27
19	36.6	38.8	40.9	45.2	47.3	49.5	51.5	53.6	57.9	0.0	2.2	49.41	0.11	14.22	-0.22	3.30
April 3	36.0	38.1	40.2	44.4	46.5	48.7	50.9	52.9	57.2	59.3	1.6	48.71	0.07	14.58	+0.04	3.26
4	35.9	38.1	40.2	44.4	46.5	48.7	50.8	53.0	57.2	59.4	1.4	48.69	0.07	14.52	+0.06	3.20
α NAVIS. $\alpha_0 = 7^h 42^m 46^s.00$																
Feb. 24	19.7	21.9	24.3	28.8	31.1	33.4	35.7	38.0	42.6	44.8	47.1	33.40	-0.21	+13.34	-0.72	42 45.81
Mar. 3	20.3	22.6	24.8	29.4	31.7	34.0	36.3	38.6	43.2	45.4	47.7	34.00	0.19	12.74	0.56	45.99
14	18.8	21.2	23.4	28.0	30.3	32.6	34.9	37.2	41.8	44.0	46.4	32.60	0.19	12.93	0.38	45.96
18	18.6	20.9	23.3	27.7	30.0	32.3	34.6	36.9	41.3	43.7	46.0	32.30	0.22	14.20	0.31	45.97
19	18.6	20.8	23.2	27.7	30.0	32.2	34.5	36.9	41.4	43.6	46.0	32.26	0.20	14.22	0.29	45.99
April 3	17.9	20.1	22.3	27.0	29.2	31.4	33.8	36.1	40.7	43.0	45.2	31.52	0.12	14.58	0.01	45.97
GROOMBRIDGE 1374.* $\alpha_0 = 7^h 44^m 49^s.21$																
Feb. 24	52.0	59.7	7.1	22.4	30.2	38.0	45.4	52.8	7.7	15.8	23.3	37.67	+1.36	+13.34	-2.76	44 49.61
Mar. 18	...	...	...	20.3	27.7	35.6	42.8	50.7	...	...	...	35.42	1.44	14.20	1.59	49.47
19	...	...	...	20.0	27.7	35.7	42.9	51.1	...	...	...	35.48	1.30	14.22	1.52	49.48
April 3	...	...	...	19.6	27.6	34.6	42.0	49.8	...	...	...	34.72	0.72	14.58	0.53	49.49
4	...	...	...	19.6	27.0	34.7	42.2	50.0	...	...	...	34.70	0.72	14.52	0.46	49.48
10	...	...	...	20.7	28.5	35.7	43.6	51.3	...	...	...	35.96	0.61	13.12	0.04	49.65
ϕ GEMINORUM. $\alpha_0 = 7^h 45^m 39^s.67$																
Mar. 3	13.4	15.7	18.0	22.6	24.9	27.2	29.5	31.9	36.4	38.9	41.2	27.25	+0.16	+12.74	-0.49	45 39.66
18	...	...	...	...	...	...	...	30.0	34.8	37.1	39.5	25.50	0.20	14.20	0.27	39.63
24	11.0	13.4	15.7	20.3	22.6	24.9	27.2	29.5	34.1	36.5	38.8	24.91	0.20	14.79	0.18	39.72
April 3	...	...	...	20.3	22.6	24.9	27.3	29.7	...	...	...	24.96	0.09	14.58	-0.00	39.63
4	...	...	...	20.5	22.7	25.0	27.2	29.5	...	...	...	24.98	0.10	14.52	+0.02	39.62

Date. 1872.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean Reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
26 MONOCEROTIS. $\delta_0 = -9^\circ 15' 15''.9$												
Feb. 24	34 36.8	35	2 52.4	34.3	37 43.35	37 19.52	14 31.17	-1 12.99	-2.02	+23.47	+5.80	15 16.9
Mar. 3	34 38.7	35	2 53.0	30.8	37 41.90	37 19.62	14 31.27	1 16.37	2.09	26.27	6.49	17.0
14	34 34.8	35	2 55.1	38.3	37 46.70	37 20.15	14 31.80	1 14.97	1.95	26.80	7.14	14.8
18	34 46.0	35	2 39.0	17.0	37 28.00	37 17.77	14 29.42	1 17.12	1.97	26.32	7.29	14.9
19	34 38.6	35	2 51.4	30.8	37 41.10	37 21.15	14 32.80	1 15.86	1.96	25.57	7.31	17.7
April 3	34 36.5	35	2 51.2	34.6	37 42.90	37 21.14	14 32.79	1 14.46	1.85	24.61	7.50	17.0
4	34 32.6	35	2 56.6	40.9	37 48.75	37 21.81	14 33.46	1 14.77	1.84	25.43	7.50	17.1
β GEMINORUM.* $\delta_0 = +28^\circ 19' 58''.8$												
Feb. 19	36 55.5	0 3	53.9	23.8	3 38.85	3 14.36	19 33.99	-0 15.25	-0.90	+45.21	-2.40	19 60.6
24	36 55.0	0 3	30.7	6.0	3 18.35	2 54.21	19 54.14	0 14.46	0.88	23.47	2.80	59.5
Mar. 3	36 52.0	0 3	39.8	10.3	3 25.05	2 56.87	19 51.48	0 15.16	1.04	26.27	3.30	58.2
11	36 59.7	0 3	26.7	59.7	3 13.20	2 55.18	19 53.17	0 15.06	0.93	25.32	3.90	58.6
14	36 52.8	0 3	34.0	8.4	3 21.20	2 54.40	19 53.95	0 14.88	0.85	26.80	4.10	60.9
18	36 55.7	0 3	31.8	1.4	3 16.60	2 54.77	19 53.58	0 15.31	0.80	26.32	4.30	59.5
19	36 51.2	0 3	36.2	7.0	3 21.60	2 54.57	19 53.78	0 15.06	0.85	25.57	4.40	59.0
24	36 59.1	0 3	25.0	56.4	3 10.70	2 53.49	19 54.86	0 15.32	0.77	25.34	4.70	59.4
April 3	36 54.9	0 3	27.9	3.3	3 15.60	2 53.42	19 54.93	0 14.78	0.67	24.61	5.20	58.9
4	36 50.5	0 3	34.4	9.8	3 22.10	2 54.84	19 53.51	0 14.84	0.72	25.43	5.30	58.1
10	37 16.8	0 3	2.8	45.0	2 53.90	2 55.52	19 52.83	0 14.50	0.53	26.40	5.50	58.7
4 NAVIS. $\delta_0 = -14^\circ 15' 14''.8$												
Feb. 24	39 31.4	35	2 36.5	19.6	37 28.05	37 3.63	14 15.28	-1 27.68	-2.10	+23.47	+6.58	15 15.0
Mar. 3	39 29.3	35	2 43.1	21.3	37 32.20	37 4.47	14 16.12	1 31.75	2.16	26.27	7.45	16.3
18	39 32.0	35	2 36.1	15.4	37 25.75	37 3.62	14 15.27	1 32.64	2.06	26.32	8.54	15.1
19	39 33.2	35	2 37.2	16.2	37 26.70	37 6.09	14 17.74	1 31.14	2.07	25.57	8.59	16.8
April 3	39 38.7	35	2 27.6	11.9	37 19.75	37 7.05	14 18.70	1 29.47	1.99	24.61	8.94	16.6
4	39 31.4	35	2 37.5	21.2	37 29.35	37 7.34	14 18.99	1 29.83	1.96	25.43	8.95	16.4
α NAVIS. $\delta_0 = -25^\circ 37' 15''.7$												
Feb. 24	42 15.9	55	3 38.5	20.7	58 29.60	58 8.89	35 20.54	-2 22.13	-2.39	+23.47	+9.05	37 12.5
Mar. 3	42 12.6	55	3 44.2	22.8	58 33.50	58 8.18	35 19.83	2 28.78	2.46	26.27	9.43	15.4
14	42 10.8	55	3 45.2	29.1	58 37.15	58 11.35	35 23.00	2 26.09	2.28	26.80	10.73	13.8
18	42 12.9	55	3 40.3	20.1	58 30.20	58 7.24	35 18.89	2 30.23	2.29	26.32	11.10	14.0
19	42 12.9	55	3 44.0	22.9	58 33.45	58 10.49	35 22.14	2 27.78	2.30	25.57	11.18	15.5
April 3	42 11.2	55	3 45.4	29.5	58 37.45	58 13.43	35 25.08	2 25.08	2.16	24.61	11.86	15.8
GROOMBRIDGE 1374.* $\delta_0 = +74^\circ 15' 18''.8$												
Feb. 24	44 16.9	5 3	40.0	11.0	8 25.50	8 18.09	14 30.26	+0 36.02	+0.95	+23.47	-12.70	15 18.0
Mar. 18	44 40.0	5 3	33.4	59.0	8 16.20	8 17.84	14 30.51	0 38.06	1.09	26.32	17.10	18.9
19	44 39.5	5 3	31.0	57.9	8 14.45	8 15.87	14 32.48	0 37.44	1.09	25.57	17.30	19.3
April 3	43 41.0	5 3	46.1	18.0	8 32.05	8 12.92	14 35.43	0 36.76	0.79	24.61	19.00	18.6
4	44 35.5	5 3	26.3	59.6	8 12.95	8 13.24	14 35.11	0 36.90	1.22	25.43	19.10	19.6
10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
ϕ GEMINORUM. $\delta_0 = +27^\circ 5' 41''.9$												
Mar. 3	45 4.7	15	2 54.9	24.9	17 39.90	17 13.61	5 34.74	-0 16.57	-0.98	+26.27	-2.81	5 40.6
18	45 45.5	15	2 2.6	32.3	16 47.45	17 10.82	5 37.53	0 16.73	0.81	26.32	3.82	42.5
24	45 8.7	15	2 45.1	16.4	17 30.75	17 11.83	5 36.52	0 16.74	0.79	25.36	4.18	40.2
April 3	45 50.1	15	1 53.2	28.9	16 41.05	17 10.37	5 37.98	0 16.17	0.78	24.61	4.72	40.9
4	45 37.4	15	2 7.5	43.9	16 55.70	17 10.18	5 38.17	0 16.23	0.67	25.43	4.76	41.9

Date. 1872.	Right Ascension Wires.											Seconds of transit over Mean Wire.	$n \tan \delta$ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
ϵ DRACONIS L. C.* $a_0 = 19^h 48^m 35^s.70$																
Mar. 3	...	...	...	9.2	15.2	21.2	27.3	33.3	...	...	...	21.24	-0.93	+12.74	+2.77	48 35.82
14	45.6	51.6	57.5	9.6	15.7	21.5	27.5	33.4	45.7	51.6	57.3	21.55	0.96	12.93	2.18	35.70
18	44.8	50.4	56.8	8.9	14.6	20.6	26.9	32.8	45.0	51.0	56.8	20.78	1.12	14.20	1.94	35.80
λ URSÆ MINORIS.* $a_0 = 19^h 52^m 18^s.96$																
Feb. 24	...	...	...	58.0	48.8	36.9	26.6	15.6	...	...	...	37.18	-20.38	+13.34	+49.18	52 19.32
27	...	...	...	...	...	...	...	...	56.3	47.5	34.6	40.06	21.23	12.92	46.87	18.62
28	...	...	...	...	...	42.2	...	...	...	...	19.4	41.90	22.39	12.84	47.09	19.44
Mar. 14	...	...	...	...	...	46.3	...	...	...	...	26.4	47.45	18.55	12.93	33.84	15.67
18	...	...	...	...	8.0	53.0	42.4	32.5	...	...	...	54.05	21.63	14.20	30.40	17.02
19	...	...	...	13.9	4.4	53.6	40.8	32.8	...	...	...	53.10	19.40	14.22	29.56	17.48
24	...	...	...	23.5	10.4	51.1	40.5	...	...	...	...	1.45	21.41	14.79	24.50	19.33
April 3	...	...	...	19.9	11.8	0.5	48.0	57.7	59.9	0.4	59.6	59.40	10.72	14.58	14.24	17.50
4	...	...	...	22.4	10.2	2.2	48.6	42.2	...	...	...	1.12	10.82	14.52	13.18	18.00
10	...	...	...	32.2	20.6	10.3	57.7	45.6	...	...	...	9.28	9.08	13.12	6.17	19.49
11	...	...	...	...	...	...	...	46.7	...	14.8	2.8	8.87	8.97	12.77	5.09	17.76
ι NAVIS.* $a_0 = 8^h 2^m 5^s.61$																
Mar. 18	38.4	40.6	42.7	47.4	49.7	52.0	54.1	56.4	1.1	3.3	5.6	51.94	-0.20	+14.20	-0.39	2 5.55
19	38.5	40.7	42.8	47.5	49.7	51.9	54.3	56.4	1.0	3.2	5.6	51.96	0.19	14.22	0.37	5.62
April 4	37.8	40.0	42.2	46.8	49.1	51.3	53.5	55.7	1.3	2.6	4.8	51.37	0.11	14.52	-0.08	5.70
10	39.0	41.3	43.4	48.0	50.3	52.6	54.7	57.0	1.6	3.8	6.0	52.52	0.10	13.12	+0.04	5.58
ζ CANCRI pr. $a_0 = 8^h 4^m 52^s.15$																
Mar. 14	26.5	28.6	30.8	35.2	37.4	39.5	41.7	43.9	48.1	50.3	52.5	39.50	+0.10	+12.93	-0.40	4 52.13
18	25.2	27.4	29.5	33.9	36.0	38.1	40.3	42.4	46.8	48.9	51.0	38.14	0.12	14.20	0.34	52.12
19	25.1	27.3	29.5	33.8	36.0	38.2	40.3	42.5	46.8	48.9	51.2	38.15	0.11	14.22	0.33	52.15
April 3	...	...	...	33.3	35.4	37.6	39.8	42.0	...	...	...	37.62	0.06	14.58	0.10	52.16
4	24.7	26.8	29.0	33.2	35.5	37.7	39.8	42.1	46.4	48.6	50.7	37.68	0.06	14.52	-0.08	52.18
10	26.0	28.1	30.3	34.6	36.8	39.0	41.1	43.3	47.6	49.8	51.9	38.95	0.04	13.12	+0.02	52.13
11	26.3	28.4	30.6	35.0	37.2	39.3	41.4	43.6	47.9	50.1	52.3	39.28	0.05	12.77	+0.04	52.14
20 NAVIS. $a_0 = 8^h 7^m 27^s.03$																
Mar. 18	0.4	2.6	4.8	9.0	11.1	13.4	15.4	17.5	21.7	23.9	26.1	13.26	-0.13	+14.20	-0.37	7 26.96
19	0.4	2.6	4.7	9.0	11.2	13.2	15.4	17.5	21.8	24.0	26.0	13.26	0.12	14.22	-0.35	27.01
April 10	1.0	3.3	5.4	9.7	11.8	13.9	16.1	18.2	22.4	24.6	26.7	13.92	0.07	13.12	+0.02	26.99
11	1.6	3.6	5.7	10.0	12.0	14.4	16.5	18.7	22.9	25.0	27.2	14.33	0.07	12.77	+0.03	27.06
β CANCRI.* $a_0 = 8^h 9^m 34^s.33$																
Mar. 14	9.3	11.3	13.5	17.6	19.7	21.7	23.8	26.0	30.1	32.2	34.2	21.76	+0.05	+12.93	-0.42	9 34.32
18	7.9	10.0	12.2	16.3	18.3	20.4	22.5	24.6	28.8	30.9	33.0	20.45	0.06	14.20	0.36	34.35
19	7.9	10.0	12.1	16.2	18.3	20.5	22.5	24.7	28.7	30.9	33.0	20.44	0.05	14.22	0.35	34.36
April 10	8.5	10.8	12.9	16.9	19.1	21.3	23.4	25.5	29.6	31.6	33.7	21.21	0.02	13.12	-0.01	34.34
11	9.0	11.0	13.1	17.3	19.5	21.6	23.7	25.9	30.0	32.0	34.0	21.55	0.01	12.77	+0.01	34.34

Date. 1871-2.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
ϵ DRACONIS L. C.* $\delta_0 = + 110^\circ 3' 29''.9$												
Mar. 3	48 19.5	20 2	14.1	37.0	21 55.55	21 56.31	0 52.04	+2 26.54	+2.00	+26.27	-18.80	3 28.1
14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
18	47 59.3	20 2	3.0	24.9	21 43.95	21 53.63	0 54.72	2 27.98	2.19	26.32	21.70	29.5
λ URSÆ MINORIS L. C.* $\delta_0 = + 91^\circ 4' 36''.1$												
Feb. 24	46 51.2	15 4	39.2	7.0	19 23.10	19 30.30	3 18.05	+1 10.02	+1.08	-15.00	-15.00	4 37.6
27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mar. 14	50 23.8	15 4	42.9	8.7	19 25.80	19 27.40	3 20.95	1 7.71	1.58	19.30	19.30	37.7
18	50 59.6	15 4	46.8	8.2	19 27.50	19 28.87	3 19.48	1 9.62	1.58	19.30	19.90	37.2
19	49 20.0	15 4	42.4	5.9	19 24.15	19 28.02	3 20.33	1 8.49	1.79	20.00	20.00	36.1
24	46 47.3	15 4	39.6	4.3	19 21.95	19 29.86	3 18.49	1 9.61	1.57	20.90	20.90	34.1
April 3	52 21.2	15 4	38.7	6.9	19 22.80	19 22.25	3 26.10	1 7.25	1.74	21.70	21.70	38.0
4	46 54.2	15 4	32.2	1.3	19 16.75	19 24.48	3 23.87	1 7.49	1.70	21.90	21.90	36.6
10	52 25.8	15 4	35.0	10.2	19 22.60	19 22.18	3 26.17	1 5.95	1.81	22.00	22.00	38.3
11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
ι NAVIS.* $\delta_0 = - 23^\circ 56' 12''.7$												
Mar. 18	(1 33.8)	15 2	48.7	26.8	17 37.75	17 8.84	54 20.49	-2 18.74	-2.17	+26.32	+10.36	56 (4.7)
19	1 32.6	15 2	52.2	31.2	17 41.70	17 18.43	54 30.08	2 16.48	2.22	25.57	10.44	12.8
April 4	1 33.8	15 2	50.0	33.8	17 41.90	17 19.79	54 31.44	2 14.48	2.13	25.43	11.35	11.3
10	1 29.8	15 2	59.6	49.6	17 54.60	17 27.37	54 39.02	2 11.40	2.03	26.40	11.45	14.6
ζ CANCRI pr. $\delta_0 = + 18^\circ 1' 54''.5$												
Mar. 14	4 19.4	20 1	25.1	4.7	21 14.90	20 51.07	1 57.28	-0 26.97	-1.07	+26.80	-0.53	1 55.5
18	4 16.8	20 1	30.9	5.5	21 18.20	20 51.62	1 56.73	0 27.72	1.09	26.32	0.70	53.5
19	4 14.8	20 1	32.0	7.9	21 19.95	20 50.88	1 57.47	0 27.28	1.09	25.57	0.75	53.9
April 3	4 48.1	20 0	48.2	28.9	20 38.55	20 51.65	1 56.70	0 26.79	0.98	24.61	1.42	52.1
4	4 20.7	20 1	21.2	2.3	21 11.75	20 50.54	1 57.81	0 26.88	1.01	25.43	1.47	53.9
10	4 19.8	20 1	22.6	9.8	21 16.20	20 52.24	1 56.11	0 26.27	1.00	26.40	1.72	53.5
11	4 21.7	20 1	26.2	10.6	21 18.40	20 56.44	1 51.91	0 26.72	0.99	32.02	1.76	54.5
20 NAVIS. $\delta_0 = - 15^\circ 24' 15''.6$												
Mar. 18	6 56.1	45 1	30.2	8.6	46 19.40	45 57.65	23 9.30	-1 36.94	-2.03	+26.32	+8.45	24 13.5
19	6 53.3	45 1	36.6	15.1	46 25.85	46 0.55	23 12.20	1 35.39	2.02	25.57	8.51	15.5
April 10	6 56.7	45 1	34.0	24.2	46 29.10	46 6.34	23 18.99	1 31.84	1.95	26.40	9.18	17.2
11	6 56.8	45 1	38.0	26.0	46 32.00	46 9.86	23 21.51	1 33.42	1.94	32.02	9.18	15.7
β CANCRI.* $\delta_0 = + 9^\circ 34' 41''.1$												
Mar. 14	9 2.3	45 3	29.2	8.3	48 18.75	47 54.81	34 53.54	-0 38.43	-2.48	+26.80	+1.80	34 41.2
18	9 1.3	45 3	33.1	7.0	48 20.05	47 55.33	34 53.02	0 39.49	2.49	26.32	1.80	39.2
19	8 59.9	45 3	33.8	8.9	48 21.35	47 54.82	34 53.53	0 38.86	2.50	25.57	1.80	39.5
April 10	9 1.5	45 3	28.2	15.1	48 21.65	47 56.16	34 52.19	0 37.42	2.30	26.40	1.30	40.2
11	9 8.6	45 3	25.1	10.0	48 17.55	48 0.73	34 47.62	0 38.07	2.27	32.02	1.30	40.6

Date. 1872.	Right Ascension Wires.											Seconds of Transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.		
	1	2	3	4	5	6	7	8	9	10	11							
Mar. 14 19 April 2 10 11	κ CEPHEI L. C.* $a_0 = 20^h 13^m 9^s.23$																	
	^{s.} 57.7	^{s.} 7.1	^{s.} 16.6	^{s.} 35.5	^{s.} 44.7	^{s.} 53.7	^{s.} 3.3	^{s.} 12.8	^{s.} 32.0	^{s.} 40.9	^{s.} 50.9	^{s.} 54.11	^{s.} -1.56	^{s.} +12.93	^{s.} +3.72	^{m.} 13	^{s.} 9.20	
	...	...	...	...	...	...	2.8	12.1	31.1	40.3	49.7	53.29	1.63	14.22	3.38		9.26	
	57.5	7.0	16.4	35.1	44.9	54.1	3.3	12.9	31.6	40.9	50.2	53.99	0.98	14.41	2.13		9.55	
	59.5	8.2	18.4	36.6	46.1	55.8	5.3	14.5	33.0	42.9	52.9	55.75	0.76	13.12	1.36		9.47	
	59.5	8.8	18.8	37.3	46.3	56.3	5.1	14.7	...	...	53.7	56.05	0.75	12.77	1.27		9.34	
	w NAVIS.* $a_0 = 8^h 16^m 20^s.84$																	
	52.6	55.0	57.5	2.3	4.9	7.3	9.7	12.0	17.1	19.5	22.0	7.26	-0.29	+14.20	-0.52	16	20.65	
	52.5	54.9	57.5	2.3	4.8	7.2	9.6	12.0	17.1	19.5	22.0	7.22	0.26	14.22	0.50		20.68	
	52.9	55.4	57.9	2.8	5.3	7.7	11.1	12.6	17.5	19.8	22.4	7.76	0.14	13.12	0.05		20.69	
53.4	55.8	58.3	3.0	5.6	8.1	10.7	13.0	17.8	20.2	22.8	8.06	0.14	12.77	0.03		20.66		
Mar. 18 19 27 April 2 10 11	α URSÆ MAJORIS.* $a_0 = 8^h 19^m 36^s.63$																	
	57.4	1.5	5.9	14.2	18.6	22.8	27.0	31.4	40.0	44.2	48.6	22.87	+0.73	+14.20	-1.16	19	36.64	
	57.3	1.5	5.6	14.3	18.6	22.9	27.2	31.5	39.8	44.3	48.5	22.86	0.66	14.22	1.13		36.61	
	56.2	0.3	4.4	13.0	17.4	21.7	25.9	30.1	38.8	42.9	47.2	21.63	0.56	15.30	0.87		36.62	
	57.0	1.1	5.5	14.0	18.3	22.5	26.7	31.1	39.7	43.9	48.1	22.54	0.39	14.41	0.66		36.68	
	58.2	2.3	6.5	15.1	19.2	23.7	27.9	32.2	40.7	45.1	49.3	23.66	0.31	13.12	0.39		36.70	
	58.4	2.6	6.8	15.4	19.6	23.8	28.3	32.6	40.7	45.2	49.6	23.91	0.30	12.77	0.36		36.62	
	B. A. C. 2846. $a_0 = 8^h 22^m 27^s.76$																	
	0.7	3.0	5.3	9.8	12.0	14.3	16.6	18.9	23.5	25.7	28.0	14.35	-0.22	+14.20	-0.49	22	27.84	
	0.6	2.9	5.1	9.7	12.0	14.3	16.5	18.8	23.2	25.6	27.8	14.23	0.20	14.22	0.47		27.78	
0.5	2.8	5.1	9.6	11.9	14.2	16.5	18.7	23.4	25.6	27.8	14.19	0.24	14.25	0.44		27.76		
59.3	1.5	3.7	8.4	10.7	13.0	15.2	17.6	22.0	24.4	26.7	12.95	0.17	15.30	0.34		27.74		
0.0	2.2	4.6	9.0	11.4	13.7	16.0	18.3	22.8	25.2	27.4	13.69	0.13	14.41	0.23		27.74		
1.1	3.4	5.6	10.2	12.4	14.6	17.0	19.3	23.8	26.2	28.4	14.73	0.11	13.12	0.08		27.66		
1.5	3.7	6.2	10.6	12.9	15.0	17.6	19.6	24.4	26.7	29.0	15.20	0.11	12.77	0.06		27.80		
Mar. 18 27 April 2 10 11	η CANCRI.* $a_0 = 8^h 25^m 18^s.26$																	
	51.3	53.4	55.6	0.1	2.1	4.3	6.6	8.8	13.2	15.3	17.6	4.39	+0.14	+14.20	-0.47	25	18.26	
	50.0	52.1	54.3	58.8	0.9	3.2	5.4	7.6	12.1	14.2	16.4	3.18	0.11	15.30	0.34		18.25	
	50.8	53.0	55.2	59.6	1.8	4.0	6.1	8.4	12.8	15.0	17.1	3.98	0.07	14.41	0.24		18.22	
	52.0	54.2	56.4	...	...	...	...	...	...	...	...	5.18	0.06	13.12	0.12		18.24	
	52.3	54.5	56.7	1.1	3.3	5.6	7.8	10.0	14.3	16.6	18.8	5.54	0.05	12.77	0.10		18.26	
Mar. 18 27 April 2 3 10 11	B. A. C. 2887. $a_0 = 8^h 28^m 47^s.97$																	
	13.3	16.7	20.1	27.3	30.8	34.1	37.4	41.1	48.1	51.6	55.1	34.15	+0.55	+14.20	-0.96	28	47.94	
	12.1	15.6	19.0	26.1	29.5	33.0	36.4	40.0	46.9	50.5	54.0	33.01	0.43	15.30	0.74		48.00	
	12.9	16.3	19.8	26.8	30.3	33.8	37.3	40.9	47.7	51.3	54.8	33.81	0.30	14.41	0.59		47.93	
	12.8	16.3	19.7	26.6	30.2	33.7	37.2	40.7	47.6	51.2	54.6	33.69	0.27	14.55	0.56		47.95	
	14.3	17.6	21.0	28.1	31.4	35.0	38.5	42.0	48.8	52.6	55.9	35.02	0.23	13.12	0.37		48.00	
14.4	17.9	21.3	28.3	32.0	35.3	38.7	42.4	49.3	52.8	56.3	35.34	0.23	12.77	0.34		48.00		
Mar. 18 21 24 27 April 2 11	δ HYDRÆ. $a_0 = 8^h 30^m 52^s.84$																	
	26.6	28.6	30.7	34.8	36.9	39.0	41.0	43.1	47.2	49.3	51.4	38.96	+0.03	+14.20	-0.44	30	52.75	
	26.6	28.6	30.6	34.7	36.8	38.9	40.9	43.0	47.2	49.1	51.3	38.88	0.03	14.25	0.40		52.76	
	26.0	28.0	30.1	34.1	36.2	38.2	40.3	42.5	46.6	48.7	50.7	38.31	0.03	14.80	0.36		52.78	
	25.3	27.4	29.4	33.6	35.6	37.7	39.7	41.8	46.0	48.0	50.1	37.69	0.02	15.31	0.32		52.70	
	26.1	28.2	30.2	34.3	36.4	38.5	40.6	42.7	46.9	49.0	51.0	38.54	0.01	14.41	0.24		52.72	
	27.6	29.6	31.8	35.9	38.0	40.0	42.0	44.1	48.3	50.3	52.4	40.00	0.00	12.76	0.10		52.66	

Date. 1872.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.						
			E.	G.														
κ CEPHEI L. C.* $\delta_0 = + 102^\circ 40' 31''.3$																		
Mar. 14	m. 11	s. 40.0	40	4	4.4	30.7	43	47.55	44	8.61	38	39.74	+1	44.15	+2.49	+26.80	-19.70	33.5
19	13	3.6	40	4	30.8	54.7	44	12.75	44	9.77	38	38.58	1	45.34	1.85	25.57	20.60	30.7
April 2	12	37.1	40	4	17.0	44.4	44	0.70	44	5.57	38	42.78	1	44.46	2.05	24.76	22.40	31.7
10	11	50.0	40	3	58.2	34.6	43	46.40	44	5.33	38	43.02	1	41.40	2.60	26.40	23.00	30.4
11	11	47.9	40	4	8.0	40.5	43	54.25	44	13.87	38	34.48	1	43.18	2.63	32.02	23.10	29.2
ψ NAVIS.* $\delta_0 = - 32^\circ 38' 55''.9$																		
Mar. 18	15	45.3	55	4	9.8	44.5	58	57.15	58	32.84	35	44.49	-3	45.21	-2.38	+26.32	+11.51	38 54.1
19	15	48.1	55	4	9.2	46.0	58	57.60	58	36.49	35	48.14	3	41.57	2.41	25.57	11.63	54.9
April 10	15	46.3	55	4	17.1	4.9	59	11.00	58	47.24	35	58.89	3	33.18	2.15	26.40	13.28	54.5
11	15	50.8	55	4	18.1	4.1	59	11.10	58	51.98	36	3.63	3	36.90	2.18	32.02	13.29	57.4
σ URSÆ MAJORIS.* $\delta_0 = + 61^\circ 8' 34''.6$																		
Mar. 18	18	57.0	15	0	20.4	47.0	15	3.70	14	47.29	8	1.06	+0	20.84	+0.59	+26.32	-13.00	8 35.8
19	18	40.4	15	0	29.0	56.7	15	12.85	14	45.92	8	2.43	0	20.51	0.33	25.57	13.20	35.6
27	18	54.1	15	0	16.2	46.4	15	1.30	14	43.88	8	4.47	0	20.47	0.57	25.01	14.20	36.3
April 2	18	51.6	15	0	18.0	48.1	15	3.05	14	43.47	8	4.88	0	20.34	0.52	24.76	14.80	35.7
10	18	43.3	15	0	18.9	58.3	15	8.60	14	43.00	8	5.35	0	19.74	0.39	26.40	15.60	36.3
11	18	45.7	15	0	24.3	1.9	15	13.10	14	48.90	7	59.45	0	20.09	0.42	32.02	15.70	36.3
B. A. C. 2846. $\delta_0 = - 25^\circ 42' 36''.9$																		
Mar. 18	21	55.9	0	4	3.1	39.3	3	51.20	3	29.44	40	41.09	-2	31.32	-2.32	+26.32	+10.24	42 38.2
19	21	53.4	0	4	7.9	46.4	3	57.15	3	32.56	40	44.21	2	28.91	2.31	25.57	10.35	39.5
21	21	55.9	0	4	2.7	39.3	3	51.00	3	29.36	40	41.01	2	33.06	2.32	28.45	10.56	37.4
27	22	0.5	0	3	55.8	37.8	3	46.80	3	32.02	40	43.67	2	28.54	2.21	25.01	11.09	38.3
April 2	21	52.8	0	4	8.0	49.3	3	58.65	3	33.94	40	45.59	2	27.59	2.15	24.76	11.48	39.1
10	22	1.7	0	4	0.3	50.0	3	55.15	3	39.78	40	51.43	2	23.31	2.13	26.40	11.79	38.7
11	22	2.0	0	4	3.6	51.9	3	57.75	3	42.38	40	54.03	2	25.83	2.13	32.02	11.81	38.2
η CANCRI.* $\delta_0 = + 20^\circ 52' 26''.6$																		
Mar. 18	24	45.5	30	1	0.7	32.0	30	46.35	30	23.17	52	25.18	-0	24.17	-0.95	+26.32	-1.30	52 25.1
27	24	44.8	30	0	55.1	31.2	30	43.15	30	20.59	52	27.76	0	23.74	0.92	25.01	1.80	26.3
April 2	24	43.1	30	0	57.3	33.1	30	45.20	30	19.57	52	28.78	0	23.59	0.94	24.76	2.10	26.9
10	24	47.6	30	0	51.8	37.1	30	44.45	30	22.87	52	25.48	0	22.90	0.90	26.40	2.50	25.6
11	24	46.0	30	0	59.9	41.1	30	50.50	30	26.59	52	21.76	0	23.32	0.91	32.02	2.50	27.0
B. A. C. 2887. $\delta_0 = + 53^\circ 50' 41''.8$																		
Mar. 18	28	9.7	30	3	10.4	37.4	32	53.90	32	35.02	50	13.33	+0	12.45	+0.15	+26.32	-10.61	50 41.6
27	28	3.1	30	3	10.1	40.8	32	55.45	32	32.31	50	16.04	0	12.22	0.19	25.01	11.93	41.5
April 2	28	3.9	30	3	10.0	40.0	32	55.00	32	31.86	50	16.49	0	12.14	0.19	24.76	12.67	40.9
3	28	2.2	30	3	10.8	41.1	32	55.95	32	31.57	50	16.78	0	12.03	0.16	24.61	12.78	40.8
10	28	3.7	30	3	4.8	45.7	32	55.25	32	31.03	50	17.32	0	11.80	0.23	26.40	13.46	42.3
11	28	22.3	30	2	58.4	36.0	32	47.20	32	37.14	50	11.21	0	12.00	0.44	32.02	13.55	42.1
δ HYDRÆ. $\delta_0 = + 6^\circ 8' 54''.8$																		
Mar. 18	30	19.8	10	4	12.4	47.8	14	0.10	13	35.05	9	13.30	-0	44.94	-0.61	+26.32	+2.95	8 57.0
21	30	21.3	10	4	14.0	47.3	14	0.65	13	37.69	9	10.66	0	45.45	0.60	28.45	2.92	56.0
24	30	19.4	10	4	9.9	45.6	13	57.75	13	35.70	9	12.65	0	44.86	0.60	25.34	2.89	55.4
27	30	19.5	10	4	9.6	48.8	13	59.20	13	35.45	9	12.90	0	44.13	0.44	25.01	2.85	56.2
April 2	30	29.7	10	3	59.0	38.8	13	48.90	13	37.42	9	10.93	0	43.85	0.44	24.76	2.73	54.1
11	30	26.7	10	4	9.4	56.1	14	2.75	13	45.40	9	2.95	0	43.33	0.36	32.02	2.49	53.8

Date. 1872.	Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
6 HYDRÆ. $a_0 = 8^h 33^m 57^s.66$																
Mar. 18	31.3	33.4	35.6	39.8	42.0	44.0	46.1	48.3	52.4	54.5	56.7	44.01	-0.10	+14.20	-0.47	33 57.64
21	31.3	33.4	35.5	39.7	41.8	44.0	46.1	48.2	52.4	54.5	56.5	43.95	0.11	14.25	0.43	57.66
24	30.7	32.9	35.0	39.1	41.3	43.4	45.5	47.7	51.8	53.9	55.9	43.38	0.10	14.80	0.39	57.69
27	30.1	32.2	34.4	38.6	40.7	42.7	44.8	46.9	51.1	53.2	55.3	42.73	0.09	15.31	0.34	57.61
April 11	32.3	34.5	36.6	40.7	42.9	45.0	47.0	49.3	53.3	55.4	57.7	44.97	0.05	12.76	0.11	57.57
γ CANCRI. $a_0 = 8^h 35^m 52^s.52$																
Mar. 21	25.3	27.4	29.7	34.2	36.4	38.6	40.8	43.0	47.5	49.7	52.0	38.60	+0.17	+14.25	-0.48	35 52.54
27	24.2	26.4	28.6	33.1	35.3	37.6	39.9	42.0	46.5	48.6	50.9	37.55	0.12	15.31	0.40	52.58
April 2	25.1	27.3	29.5	34.0	36.3	38.3	40.6	42.8	47.2	49.5	51.7	38.39	0.08	14.41	0.31	52.57
3	25.0	27.2	29.4	33.8	35.9	38.3	40.4	42.6	47.1	49.3	51.6	38.24	0.07	14.55	0.29	52.57
10	26.2	28.5	30.6	35.2	37.3	39.6	41.8	44.0	48.6	50.7	52.9	39.58	0.06	13.12	0.18	52.58
11	26.6	28.8	30.9	35.3	37.7	40.0	42.0	44.4	48.8	51.1	53.3	39.90	0.06	12.76	0.16	52.56
δ CANCRI.* $a_0 = 8^h 37^m 24^s.51$																
Mar. 24	57.0	58.1	1.3	5.7	7.9	10.1	12.2	14.3	18.8	22.0	23.1	10.05	+0.13	+14.80	-0.42	37 24.56
27	56.4	58.6	0.8	5.0	7.2	9.5	11.6	13.8	18.1	20.4	22.6	9.45	0.10	15.31	0.38	24.48
April 2	...	...	...	...	...	10.4	12.4	14.7	19.0	21.2	24.4	10.33	0.06	14.41	0.29	24.51
3	57.2	59.2	1.5	5.9	8.1	10.3	12.4	14.5	18.8	21.0	23.2	10.19	0.06	14.55	0.28	24.52
10	...	...	...	...	...	...	13.7	15.9	20.2	22.4	24.6	11.57	0.05	13.12	0.18	24.56
11	...	...	...	...	...	11.8	14.0	16.2	20.6	22.7	24.9	11.85	0.05	12.76	0.16	24.50
ϵ HYDRÆ.* $a_0 = 8^h 39^m 59^s.78$																
Mar. 27	32.3	34.4	36.4	40.8	42.8	45.0	46.9	49.0	53.2	55.3	57.4	44.86	+0.02	+15.31	-0.38	39 59.81
April 2	33.2	35.3	37.3	41.5	43.5	45.6	47.7	49.7	54.0	56.0	58.1	45.63	0.01	14.41	0.28	59.77
10	34.4	36.4	38.6	42.7	44.8	46.9	48.9	51.0	55.1	57.2	59.2	46.84	0.01	13.12	0.17	59.80
ρ HYDRÆ. $a_0 = 8^h 41^m 39^s.13$																
Mar. 21	12.8	14.9	17.0	21.1	23.2	25.3	27.3	29.4	33.6	35.6	37.8	25.27	+0.03	+14.25	-0.45	41 39.10
27	11.8	13.8	16.0	20.0	22.1	24.1	26.2	28.3	32.4	34.4	36.7	24.16	0.02	15.31	0.37	39.12
April 2	12.5	14.6	16.6	20.8	22.8	24.9	27.0	29.0	33.2	35.3	37.4	24.92	0.01	14.41	0.29	39.05
10	13.6	15.7	17.8	22.0	24.1	26.1	28.3	30.3	34.5	36.5	38.6	26.14	0.00	13.12	0.18	39.08
11	14.0	16.0	18.1	22.4	24.4	26.5	28.5	30.6	34.8	36.8	38.9	26.45	0.00	12.76	0.16	39.05
35 LYNCIS. $a_0 = 8^h 43^m 20^s.93$																
Mar. 21	...	...	...	...	...	...	9.7	12.7	18.5	21.3	24.2	6.98	+0.42	+14.25	-0.77	43 20.88
27	49.0	51.7	54.4	0.3	3.0	6.0	8.8	11.7	17.6	20.3	23.1	5.99	0.30	15.31	0.67	20.93
April 3	49.5	52.4	55.2	1.0	3.9	6.7	9.6	12.4	18.2	21.0	23.8	6.70	0.19	14.55	0.51	20.93
10	50.7	53.7	56.4	2.3	5.1	7.9	10.9	13.7	19.4	22.3	25.2	7.96	0.16	13.12	0.39	20.85
11	51.1	54.0	56.9	2.6	5.4	8.3	11.2	14.0	19.7	22.7	25.5	8.31	0.16	12.76	0.37	20.86
57 CANCRI med.* $a_0 = 8^h 46^m 25^s.74$																
Mar. 21	57.5	59.9	2.4	7.1	9.5	12.0	14.3	16.7	21.4	24.0	26.4	11.93	+0.26	+14.25	-0.61	46 25.83
27	56.5	58.9	1.2	6.1	8.4	10.7	13.3	15.6	20.5	22.8	25.3	10.85	0.18	15.31	0.51	25.83
April 2	57.3	59.7	2.1	6.8	9.2	11.7	14.1	16.4	21.2	23.7	26.2	11.67	0.12	14.41	0.42	25.78
3	57.2	59.6	2.0	6.7	9.1	11.7	14.0	16.4	21.1	23.6	25.9	11.57	0.11	14.55	0.40	25.83

Date. 1872.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
6 HYDRÆ. $\delta_0 = -12^\circ 1' 27''.5$												
Mar. 18	33 26.5	20 3	56.9	35.4	23 46.15	23 23.69	0 35.34	-1 25.76	-2.07	+26.32	+7.38	1 29.5
21	33 26.9	20 3	57.8	35.2	23 46.50	23 24.68	0 36.33	1 26.51	2.08	28.45	7.56	28.9
24	33 26.3	20 3	56.0	35.0	23 45.50	23 23.55	0 35.20	1 25.38	2.08	25.34	7.71	29.6
27	33 23.8	20 3	58.9	40.1	23 49.50	23 25.24	0 36.89	1 24.00	1.92	25.01	7.85	29.9
April 11	33 21.4	20 4	11.9	0.4	24 6.15	23 35.79	0 47.44	1 22.49	1.82	32.02	8.19	31.5
γ CANCRI. $\delta_0 = +21^\circ 55' 37''.9$												
Mar. 21	35 19.4	25 2	52.5	21.4	27 36.95	27 13.58	55 34.77	-0 23.15	-1.01	+28.45	-1.57	55 37.5
27	35 16.1	25 2	50.0	24.5	27 37.25	27 11.08	55 37.27	0 22.48	0.94	25.01	1.96	36.9
April 2	35 24.0	25 2	41.0	16.0	27 28.50	27 10.97	55 37.38	0 22.34	0.88	24.76	2.35	36.6
3	35 19.2	25 2	47.0	22.7	27 34.85	27 11.72	55 36.63	0 22.13	0.91	24.61	2.42	35.8
10	35 19.0	25 2	45.9	28.5	27 37.20	27 12.12	55 36.23	0 21.69	0.87	26.40	2.84	37.2
11	35 29.9	25 2	38.3	18.0	27 28.15	27 15.98	55 32.37	0 22.08	0.81	32.02	2.90	38.6
δ CANCRI.* $\delta_0 = +18^\circ 37' 22''.4$												
Mar. 24	36 43.5	45 1	8.9	44.0	45 56.45	45 23.49	37 24.86	-0 26.96	-1.10	+25.34	-0.70	37 21.4
27	37 3.1	45 0	41.7	20.2	45 30.95	45 23.11	37 25.24	0 26.53	0.96	25.01	0.90	21.9
April 2	37 17.6	45 0	24.4	2.3	45 13.35	45 22.43	37 25.92	0 26.37	0.96	24.76	1.20	22.1
3	37 4.2	45 0	38.8	18.7	45 28.75	45 21.29	37 27.06	0 26.12	0.96	24.61	1.30	23.3
10	37 26.2	45 0	12.5	59.9	45 6.20	45 24.36	37 23.99	0 25.60	0.98	26.40	1.60	22.2
11	37 32.8	45 0	12.6	56.9	45 4.75	45 31.86	37 16.49	0 26.06	1.03	32.02	1.60	19.8
ϵ HYDRÆ.* $\delta_0 = +6^\circ 53' 12''.4$												
Mar. 27	39 28.1	25 4	51.8	31.2	29 41.50	29 19.74	53 28.61	-0 42.97	-0.42	+25.01	+2.70	53 12.9
April 2	39 34.7	25 4	42.7	23.2	29 32.95	29 18.75	53 29.60	0 42.71	0.42	24.76	2.50	13.7
10	39 27.3	25 4	53.5	41.3	29 47.40	29 21.99	53 26.36	0 41.47	1.34	26.40	2.30	12.2
ρ HYDRÆ. $\delta_0 = +6^\circ 18' 32''.5$												
Mar. 21	41 8.1	0 4	37.6	10.6	4 24.10	4 1.67	18 46.68	-0 46.25	-1.63	+28.45	+2.94	18 30.2
27	41 11.4	0 4	25.0	3.8	4 14.40	3 57.70	18 50.65	0 44.91	1.44	25.01	2.86	32.2
April 2	41 21.3	0 4	14.5	53.0	4 3.75	3 59.05	18 49.30	0 44.63	1.43	24.76	2.73	30.7
10	41 7.2	0 4	33.1	20.0	4 26.55	4 1.90	18 46.45	0 43.35	1.38	26.40	2.52	30.6
11	41 11.1	0 4	35.6	20.3	4 27.95	4 7.86	18 40.49	0 44.11	1.37	32.02	2.48	29.5
35 LYNCIS. $\delta_0 = +44^\circ 12' 3''.3$												
Mar. 21	(42 24.9)	10 1	7.9	35.2	10 51.55	10 11.95	11 36.40	+0 1.99	-0.46	+28.45	-7.87	11 (58.5)
27	43 16.3	10 1	8.5	41.9	10 55.20	11 4.89	11 43.46	0 1.94	+0.03	25.01	8.66	61.8
April 3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
10	42 53.6	10 1	26.1	7.6	11 16.85	11 3.31	11 45.04	0 1.87	+0.01	26.40	10.19	63.1
11	42 41.0	10 1	44.9	25.9	11 35.40	11 9.72	11 38.63	0 1.90	-0.14	32.02	10.28	62.1
57 CANCRI med.* $\delta_0 = +31^\circ 3' 44''.1$												
Mar. 21	46 1.0	15 4	42.5	11.2	19 26.85	19 14.60	3 33.75	-0 12.43	-0.70	+28.45	-4.00	3 45.1
27	45 50.0	15 4	48.3	21.9	19 35.10	19 11.72	3 36.63	0 12.07	0.60	25.01	4.59	44.4
April 2	46 6.0	15 4	28.5	3.7	19 16.10	19 9.69	3 38.66	0 12.00	0.50	24.76	5.14	45.8
3	45 47.0	15 4	51.4	27.3	19 39.35	19 11.70	3 36.65	0 11.89	0.65	24.61	5.23	43.5

Date. 1872.	Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
ζ HYDRÆ.* $a_0 = 8^h 48^m 37^s.61$																
Mar. 21	...	...	...	19.7	21.7	23.7	25.9	28.0	...	...	...	23.80	+0.03	+14.25	-0.48	48 37.60
27	10.3	12.3	14.4	18.5	20.6	22.7	24.7	26.8	31.0	33.0	35.1	22.67	0.02	15.31	0.39	37.61
April 2	11.0	13.0	15.1	19.3	21.4	23.4	25.5	27.6	31.8	33.8	35.9	23.44	0.01	14.41	0.32	37.54
3	10.8	13.0	15.0	19.2	21.2	23.4	25.5	27.5	31.6	33.6	35.7	23.32	0.01	14.55	0.31	37.57
ι URSÆ MAJORIS.* $a_0 = 8^h 50^m 26^s.01$																
Mar. 21	53.6	56.6	59.7	5.9	9.0	12.2	15.3	18.4	24.6	27.7	30.8	12.16	+0.50	+14.25	-0.92	50 25.99
27	52.4	55.6	58.8	5.0	8.1	11.2	14.3	17.5	23.6	26.7	29.8	11.18	0.35	15.31	0.80	26.04
April 1	...	...	...	5.7	8.9	11.9	15.0	18.2	...	...	...	11.94	0.27	14.44	0.68	25.97
2	...	...	...	5.9	8.9	12.0	15.1	18.2	...	...	...	12.02	0.24	14.41	0.66	26.01
3	53.2	56.3	59.5	5.7	8.8	11.8	15.0	18.0	24.4	27.5	30.6	11.89	0.22	14.55	0.64	26.02
6	53.6	56.8	59.9	6.0	9.3	12.3	15.4	18.6	24.8	27.8	30.9	12.31	0.14	14.14	0.59	26.00
21	56.6	59.8	2.8	9.4	12.4	15.5	18.5	21.6	28.0	30.9	34.0	15.41	0.04	10.81	0.24	26.02
12 YEAR CAT. 1879. $a_0 = 20^h 53^m 19^s.06$																
Mar. 21	...	...	...	38.2	50.4	2.1	14.1	26.3	...	...	...	2.22	-2.54	+14.25	+5.27	53 19.20
27	49.1	1.5	13.2	37.2	49.0	1.0	12.7	24.6	48.7	0.6	12.9	0.95	1.80	15.31	4.67	19.13
April 1	50.8	2.5	14.0	38.8	50.0	1.7	13.9	26.5	50.0	1.0	14.2	2.13	1.40	14.44	4.14	19.31
2	...	...	...	38.0	50.0	1.9	13.9	25.1	...	...	...	1.78	1.26	14.41	4.03	18.96
3	...	...	...	38.2	49.9	1.4	13.7	26.0	...	...	...	1.84	1.16	14.55	3.92	19.15
6	...	...	...	38.5	50.6	2.3	14.1	26.3	...	...	...	2.36	0.71	14.14	3.56	19.35
κ URSÆ MAJORIS.* $a_0 = 8^h 54^m 52^s.47$																
Mar. 21	...	...	...	...	35.7	38.8	41.8	44.9	51.0	54.1	57.0	38.74	+0.48	+14.25	-0.94	54 52.53
April 2	20.2	23.2	26.4	32.5	35.6	38.6	41.7	44.7	50.9	53.9	57.0	38.61	0.23	14.41	0.70	52.55
3	...	...	...	32.3	35.5	38.4	41.5	44.4	...	...	...	38.42	0.21	14.55	0.68	52.50
17	22.9	25.8	28.9	35.0	38.1	41.1	44.2	47.2	53.3	56.4	59.4	41.12	0.14	11.62	0.37	52.51
σ^2 URSÆ MAJORIS.* $a_0 = 8^h 59^m 5^s.80$																
Mar. 21	20.0	25.3	30.7	41.5	47.1	52.5	57.9	3.6	14.3	19.6	25.0	52.50	+1.08	+14.25	-1.97	59 5.86
27	19.0	24.3	29.9	40.7	46.1	51.4	57.1	2.4	13.1	18.7	24.2	51.54	0.76	15.31	1.76	5.85
28	19.0	24.4	30.1	40.6	46.0	51.8	57.0	3.7	13.4	18.7	24.3	51.73	0.71	15.28	1.71	6.01
April 1	...	...	...	41.5	47.0	52.6	57.8	3.3	...	...	...	52.44	0.60	14.44	1.56	5.92
2	19.9	25.3	30.8	41.6	47.0	52.5	57.9	3.4	14.3	19.6	24.9	52.47	0.53	14.41	1.52	5.89
6	20.3	25.6	31.1	41.9	47.3	52.8	58.2	3.5	14.4	19.8	25.2	52.74	0.30	14.14	1.35	5.83
17	22.3	27.8	33.2	43.9	49.4	54.7	0.3	5.6	16.3	21.9	27.4	54.80	0.33	11.62	0.87	5.88
21	23.0	28.4	33.9	44.8	50.5	55.7	1.1	6.6	17.3	22.9	28.1	55.66	0.10	10.81	0.70	5.87
29	24.9	30.1	35.5	46.2	51.6	57.1	2.6	8.3	18.9	24.2	29.6	57.18	0.07	8.92	0.32	5.85
κ CANCRI. $a_0 = 9^h 0^m 48^s.74$																
April 1	22.0	24.2	26.3	30.4	32.5	34.7	36.8	38.8	43.0	45.1	47.2	34.64	+0.04	+14.44	-0.41	0 48.71
2	22.1	24.2	26.3	30.6	32.6	34.7	36.8	38.9	43.0	45.2	47.3	34.70	0.03	14.41	0.40	48.74
6	22.3	24.5	26.6	30.7	32.9	34.9	37.0	39.1	43.3	45.5	47.6	34.94	0.01	14.14	0.34	48.75
17	24.7	26.8	29.0	32.1	35.2	37.3	39.4	41.4	45.7	47.8	49.9	37.21	0.01	11.62	0.19	48.65
21	25.4	27.7	29.7	33.8	36.0	38.1	40.2	42.3	46.6	48.6	50.7	38.10	0.01	10.81	0.13	48.79
PI. VIII. 265. $a_0 = 9^h 2^m 25^s.95$																
April 1	...	...	...	7.3	9.6	12.0	14.4	16.5	...	...	...	11.96	-0.14	+14.44	-0.44	2 25.82
2	...	...	...	7.3	9.6	11.9	14.1	16.5	...	...	...	11.88	0.13	14.41	0.42	25.74

Date. 1872.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.							
			E.	G.															
ζ HYDRÆ.* δ ₀ = + 6° 25' 51".3																			
Mar. 21	48	5.7	55	2	17.6	51.2	57	4.40	56	40.80	26	7.55	-0	45.01	-1.50	+28.45	+2.90	25	52.4
27	48	10.7	55	2	4.3	43.7	56	54.00	56	38.35	26	10.00	0	43.71	1.45	25.01	2.90		52.7
April 2	48	6.0	55	2	12.8	51.8	57	2.30	56	39.61	26	8.74	0	43.44	1.45	24.76	2.80		51.4
3	48	15.3	55	2	0.3	40.0	56	50.15	56	39.58	26	8.77	0	43.06	1.45	24.61	2.70		51.6
ι URSÆ MAJORIS.* δ ₀ = + 48° 32' 31".6																			
Mar. 21	49	41.5	50	1	26.8	52.0	51	9.40	50	42.82	32	5.53	+0	6.71	-0.08	+28.45	-8.70	32	31.9
27	49	48.5	50	1	12.1	43.7	50	57.90	50	38.18	32	10.17	0	6.51	+0.09	25.01	10.10		31.7
April 1	49	47.0	50	1	12.6	43.5	50	58.05	50	36.42	32	11.93	0	6.46	0.06	24.39	10.20		32.6
2	49	53.2	50	1	4.0	34.1	50	49.05	50	32.72	32	11.65	0	6.47	0.13	24.76	10.40		32.6
3	49	47.2	50	1	14.0	46.0	51	0.00	50	38.54	32	9.81	0	6.42	0.06	24.61	10.50		31.0
6	49	49.8	50	1	8.2	45.8	50	57.00	50	37.54	32	10.81	0	6.40	0.09	24.69	10.80		31.2
21	49	51.1	50	1	14.2	57.7	51	5.95	50	44.84	32	3.51	0	6.19	0.12	33.84	12.30		31.4
12 YEAR CAT. 1879. δ ₀ = + 99° 55' 43".0																			
Mar. 21	52	35.0	25	4	8.0	28.0	28	48.00	28	54.19	53	54.16	+1	37.37	+1.88	+28.45	-18.90	55	43.0
27	53	30.1	25	4	9.7	34.6	28	52.15	28	45.55	54	2.80	1	34.56	2.04	25.01	20.10		44.3
April 1	52	27.0	25	3	52.0	22.1	28	37.05	28	45.03	54	3.32	1	33.72	2.07	24.39	20.80		42.7
2	52	24.8	25	3	51.2	17.9	28	34.55	28	42.96	54	5.39	1	33.99	2.09	24.76	21.00		45.2
3	52	23.9	25	3	51.6	18.3	28	34.95	28	43.57	54	4.78	1	33.17	2.10	24.61	21.10		43.6
6	52	47.7	25	3	51.6	23.9	28	37.75	28	41.08	54	7.27	1	32.95	1.98	24.69	21.50		45.4
κ URSÆ MAJORIS.* δ ₀ = + 47° 39' 37".6																			
Mar. 21	55	1.8	40	3	31.0	58.0	43	14.50	43	34.91	39	13.44	+0	5.74	-0.25	+28.45	-8.40	39	39.0
April 2	54	13.1	40	4	6.1	38.9	43	52.50	43	29.96	39	18.39	0	5.54	0.00	24.76	10.00		38.7
3	54	36.3	40	3	45.9	18.9	43	32.40	43	30.54	39	17.81	0	5.50	+0.05	24.61	10.10		37.9
17	54	16.4	40	4	10.7	49.1	43	59.90	43	38.07	39	10.28	0	5.42	0.08	33.27	11.70		37.4
σ ² URSÆ MAJORIS.* δ ₀ = + 67° 39' 5".1																			
Mar. 21	58	17.5	45	0	3.2	26.7	44	44.95	44	27.48	38	20.87	+0	29.33	+0.53	+28.45	-13.10	39	6.1
27	58	5.3	45	0	2.2	29.3	44	45.75	44	22.64	38	25.71	0	28.48	0.54	25.01	14.20		5.5
28	58	14.1	40	4	54.3	24.6	44	39.45	44	20.69	38	27.66	0	28.36	0.67	24.77	14.40		7.1
April 1	58	59.7	40	4	32.3	4.0	44	18.15	44	21.79	38	26.56	0	28.22	0.95	24.39	15.10		5.0
2	58	3.7	45	0	0.2	29.7	44	44.95	44	20.65	38	27.70	0	28.31	0.49	24.76	15.30		6.0
6	58	13.9	40	4	51.9	25.3	44	38.60	44	19.24	38	29.11	0	27.99	0.65	24.69	15.80		6.6
17	58	8.2	45	0	2.3	37.8	44	50.05	44	26.79	38	21.56	0	27.66	0.62	33.27	17.10		6.0
21	58	50.8	40	4	40.3	19.2	44	29.75	44	27.29	38	21.06	0	27.05	1.04	33.84	17.40		5.6
29	58	36.1	40	4	48.2	28.0	44	38.10	44	27.56	38	20.79	0	27.70	1.04	34.23	17.80		6.0
κ CANCRI. δ ₀ = + 11° 10' 54".6																			
April 1	0	14.8	10	2	19.3	58.2	12	8.75	11	43.26	11	5.09	-0	36.19	-1.29	+24.39	+1.46	10	53.5
2	0	19.1	10	2	13.4	54.0	12	3.70	11	43.62	11	4.73	0	36.31	1.27	24.76	1.42		53.3
6	0	17.9	10	2	14.0	58.0	12	6.00	11	44.11	11	4.24	0	35.91	1.24	24.69	1.23		53.0
17	0	20.6	10	2	22.1	5.9	12	14.00	11	52.63	11	55.72	0	35.48	1.24	33.27	0.76		53.0
21	.....												.....						
Pl. VIII. 265. δ ₀ = - 25° 20' 38".1																			
April 1	2	18.8	40	1	32.9	15.6	41	24.25	41	32.30	18	43.95	-3	24.79	-2.19	+24.39	+10.82	20	35.7
2	2	21.8	40	1	27.9	11.9	41	19.90	41	31.63	18	43.28	3	25.30	2.18	24.76	11.90		34.1

Date. 1872.	Right Ascension Wires.											Seconds of Transit over Mean Wire.	$n \tan \delta$ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
	1	2	3	4	5	6	7	8	9	10	11						
April 1 2 6 17 21	<i>e</i> MALI. $a_0 = 9^h 4^m 31^s.03$																
	<i>s.</i> 2.9	<i>s.</i> 5.2	<i>s.</i> 7.6	<i>s.</i> 12.5	<i>s.</i> 14.8	<i>s.</i> 17.1	<i>s.</i> 19.5	<i>s.</i> 21.9	<i>s.</i> 26.7	<i>s.</i> 29.1	<i>s.</i> 31.4	<i>s.</i> 17.16	<i>s.</i> -0.17	<i>s.</i> +14.44	<i>s.</i> -0.47	<i>m.</i> 4	<i>s.</i> 30.96
	...	...	...	12.3	14.8	17.3	19.5	21.9	...	...	...	17.16	0.15	14.41	0.46		30.96
	3.1	5.5	8.0	12.7	15.0	17.4	19.7	22.1	26.9	29.3	31.7	17.40	0.10	14.14	0.39		31.05
	5.4	7.9	10.0	15.0	17.3	19.7	22.0	24.4	29.1	31.5	34.0	19.66	0.10	11.62	0.19		30.99
	6.3	8.5	10.9	15.7	18.1	20.3	22.7	25.1	30.0	32.3	34.7	20.42	0.05	10.81	0.12		31.06
April 1 2 6 17 21 23 29	<i>\theta</i> HYDRÆ.* $a_0 = 9^h 7^m 42^s.22$																
	16.0	17.8	20.0	24.0	26.1	28.1	30.3	32.3	36.5	38.6	40.7	28.22	-0.00	+14.44	-0.44	7	42.22
	15.9	18.0	20.0	24.1	26.2	28.3	30.3	32.4	36.6	38.5	40.5	28.25	0.00	14.41	0.42		42.24
	16.0	18.0	20.2	24.4	26.5	28.5	30.6	32.6	36.7	38.8	40.8	28.46	0.01	14.14	0.37		42.22
	18.5	20.5	22.6	26.7	28.8	30.8	32.8	34.9	39.1	41.1	43.2	30.82	0.01	11.62	0.22		42.21
	19.2	21.2	23.3	27.4	29.5	31.6	33.7	35.7	40.0	41.9	44.0	31.59	0.01	10.81	0.16		42.23
	19.9	21.9	23.9	28.1	30.0	32.2	34.3	36.3	40.4	42.5	44.6	32.19	0.01	10.20	0.14		42.24
21.1	23.0	25.1	29.3	31.2	33.3	35.3	37.4	41.6	43.7	45.8	33.34	0.01	8.92	0.05		42.20	
April 1 2 6 17 21 23 29	38 LYNCS.* $a_0 = 9^h 10^m 52^s.27$																
	22.8	25.5	28.1	33.0	35.8	38.4	41.0	43.6	48.9	51.4	54.0	38.41	+0.18	+14.44	-0.66	10	52.37
	22.9	25.5	28.0	33.3	35.7	38.4	41.0	43.7	48.8	51.4	54.0	38.43	0.16	14.41	0.64		52.36
	23.1	25.8	28.4	33.6	36.1	38.7	41.3	44.0	49.1	51.7	54.2	38.73	0.09	14.14	0.58		52.38
	25.5	28.0	30.6	35.8	38.4	41.0	43.6	46.2	51.4	54.0	56.6	41.01	0.09	11.62	0.40		52.32
	26.5	29.0	31.5	36.6	39.2	41.8	44.4	47.0	52.2	54.8	57.2	41.84	0.02	10.81	0.32		52.35
	...	...	...	37.2	39.8	42.4	45.0	47.5	...	...	...	42.38	0.03	10.20	0.29		52.32
28.1	30.5	33.2	38.4	41.0	43.6	46.1	48.6	53.8	56.4	59.1	43.53	0.01	8.92	0.17		52.29	
April 1 2 17 23	83 CANCRI.* $a_0 = 9^h 11^m 50^s.11$																
	23.1	25.1	27.3	31.7	34.0	36.0	38.2	40.4	44.7	46.9	49.1	36.05	+0.07	+14.44	-0.51	11	50.05
	23.0	25.3	27.4	31.7	34.0	36.1	38.3	40.4	44.7	47.0	49.1	36.09	0.06	14.41	0.50		50.06
	25.7	27.8	30.0	34.3	36.5	38.7	40.8	43.0	47.4	49.5	51.7	38.67	0.03	11.62	0.29		50.03
...	...	...	35.7	37.8	40.1	42.3	44.4	...	...	...	40.06	0.01	10.20	0.19		50.08	
April 1 2 6 21 23	40 LYNCS.* $a_0 = 9^h 13^m 15^s.03$																
	46.0	48.4	51.0	56.1	58.6	1.2	3.6	6.2	11.1	13.7	16.2	1.10	+0.16	+14.44	-0.65	13	15.05
	46.1	48.5	51.1	56.1	58.6	1.1	3.6	6.0	11.1	13.6	16.3	1.10	0.15	14.41	0.63		15.03
	...	...	...	...	...	1.5	4.0	6.4	11.4	14.0	16.5	1.45	0.08	14.14	0.57		15.10
	49.5	51.9	54.4	59.6	2.0	4.5	6.9	9.4	14.5	16.9	19.7	4.48	0.02	10.81	0.32		14.99
...	...	...	...	...	5.2	7.6	10.2	...	17.7	20.1	5.16	0.03	10.20	0.28		15.11	
April 6 19 21 29	<i>h</i> MALI. $a_0 = 9^h 15^m 49^s.74$																
	22.2	24.7	26.9	31.4	33.8	36.1	38.4	40.6	45.2	47.5	49.7	36.05	-0.08	+14.14	-0.43	15	49.68
	25.1	27.3	29.7	34.2	36.6	38.8	41.0	43.4	48.0	50.2	52.5	38.80	0.10	11.11	0.21		49.60
	25.4	27.6	29.8	34.4	36.8	39.0	41.2	43.7	48.2	50.5	52.7	39.03	0.04	10.81	0.12		49.68
	27.0	29.4	31.6	36.2	38.3	40.8	43.1	45.4	50.0	52.3	54.7	40.80	0.04	8.92	0.04		49.72
Mar. 28 April 1 2 6 19 21 29	1 H. DRACONIS.* $a_0 = 9^h 18^m 38^s.09$																
	59.8	14.2	28.8	57.9	12.9	26.8	41.4	56.6	25.6	40.4	55.0	27.22	+2.04	+15.28	-5.89	18	38.65
	0.6	14.4	28.8	58.6	12.7	27.5	42.5	56.7	26.2	40.0	55.7	27.61	1.72	14.44	5.44		38.33
	0.5	14.4	29.5	58.8	13.1	28.0	42.6	57.0	26.5	40.8	55.7	27.90	1.54	14.41	5.33		38.52
	0.8	14.9	30.0	59.8	14.0	27.9	43.0	57.7	26.8	41.2	56.0	28.37	0.87	14.14	4.88		38.50
	...	...	...	59.7	15.4	29.9	43.5	59.3	...	...	...	29.56	1.11	11.11	3.23		38.55
	...	...	...	0.3	16.0	29.7	45.2	59.4	...	...	...	30.12	0.30	10.81	2.98		38.25
	3.4	18.1	32.8	2.0	16.7	31.2	46.3	0.5	29.7	44.0	58.2	31.17	0.21	8.92	1.91		38.39

Date. 1872.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean Reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.							
			E.	G.															
<i>e</i> MALL. $\delta_0 = -29^\circ 50' 40''.2$																			
April 1	3	58.5	10	1	27.0	8.0	11	17.90	10	56.61	48	8.26	-3	4.07	-2.18	+24.39	+11.59	50	38.5
2	4	18.5	10	1	4.0	45.0	10	54.50	10	55.98	48	7.63	3	4.71	2.26	24.76	11.69		38.2
6	3	49.4	10	1	41.6	26.3	11	33.95	11	2.07	48	13.72	3	2.57	2.09	24.69	12.04		41.6
17	4	9.3	10	1	29.1	14.9	11	22.00	11	10.16	48	21.81	2	0.44	2.21	33.27	12.71		38.5
21	4	2.4	10	1	37.5	29.7	11	33.60	11	13.10	48	24.75	2	56.47	2.15	33.84	12.84		36.7
<i>\theta</i> HYDRÆ.* $\delta_0 = +2^\circ 51' 9''.9$																			
April 1	7	11.6	30	1	48.0	25.2	31	36.60	31	14.82	51	33.53	-0	49.29	-1.52	+24.39	+4.00	51	11.1
2	7	9.9	30	1	51.0	28.2	31	39.60	31	15.61	51	32.74	0	49.47	1.53	24.76	4.00		10.5
6	7	26.0	30	1	26.8	9.9	31	18.35	31	15.07	51	33.28	0	48.90	1.51	24.69	4.00		11.6
17	7	12.9	30	1	56.1	38.9	31	47.50	31	24.04	51	24.31	0	48.33	1.49	33.27	3.70		11.5
21	7	19.5	30	1	46.3	36.2	31	41.25	31	25.39	51	22.96	0	47.27	1.48	33.84	3.60		11.6
23	7	44.9	30	1	19.5	4.4	31	11.95	31	28.60	51	19.75	0	48.44	1.46	34.45	3.50		7.8
29	7	14.9	30	1	57.2	44.7	31	50.95	31	26.83	51	21.52	0	48.46	1.46	34.23	3.30		9.1
38 LYNCIS.* $\delta_0 = +37^\circ 20' 34''.0$																			
April 1	10	16.3	0	3	4.8	37.0	2	50.90	2	27.85	20	20.50	-0	5.27	-0.36	+24.39	-6.40	20	32.9
2	10	12.8	0	3	8.6	42.0	2	55.30	2	28.59	20	19.76	0	5.29	0.41	24.76	6.50		32.3
6	10	16.1	0	3	2.2	42.5	2	52.35	2	28.77	20	19.58	0	5.23	0.38	24.69	6.90		31.8
17	10	19.1	0	3	9.0	48.0	2	58.50	2	35.65	20	12.70	0	5.17	0.30	33.27	8.00		32.5
21	10	24.4	0	3	2.0	48.4	2	55.20	2	37.05	20	11.30	0	5.05	0.26	33.84	8.30		31.5
23	10	57.5	0	2	29.5	10.7	2	20.10	2	35.85	20	12.50	0	5.18	0.20	34.43	8.50		33.0
29	.....											.....							.....
83 CANCRI.* $\delta_0 = +18^\circ 14' 47''.3$																			
April 1	11	25.3	5	3	22.3	0.7	8	11.50	7	58.16	14	50.19	-0	26.78	-1.00	+24.39	-0.60	14	46.2
2	11	29.7	5	3	16.7	54.8	8	5.75	7	57.77	14	50.58	0	26.88	0.99	24.76	0.60		46.9
17	11	20.0	5	3	37.5	22.4	8	29.95	8	6.64	14	41.71	0	26.27	0.97	33.27	1.50		46.2
23	11	28.8	5	3	29.0	14.7	8	21.85	8	7.89	14	40.46	0	26.33	0.87	34.45	1.90		45.8
40 LYNCIS.* $\delta_0 = +34^\circ 55' 55''.5$																			
April 1	12	44.8	25	2	33.7	8.9	27	21.30	27	3.76	55	44.59	-0	7.81	-0.39	+24.39	-5.50	55	55.3
2	13	5.3	25	2	11.8	47.1	26	59.45	27	3.97	55	44.38	0	7.84	0.32	24.76	5.60		55.4
6	13	21.3	25	1	53.1	32.5	26	42.80	27	4.20	55	44.15	0	7.75	0.42	24.69	6.00		54.7
21	13	14.0	25	2	9.3	55.4	27	2.35	(27 12.58)	55	35.77	0	7.50	0.31	33.84	7.40		54.4	
23	.....											.....							.....
<i>h</i> MALL. $\delta_0 = -25^\circ 25' 18''.8$																			
April 6	15	17.2	45	1	46.9	34.8	46	40.85	46	18.62	23	30.27	-2	24.22	-2.13	+24.69	+11.03	25	20.9
19	15	17.9	45	1	57.8	49.9	46	53.85	46	29.13	23	40.78	2	21.56	2.08	34.37	11.73		18.3
21	15	22.2	45	1	53.6	48.2	46	50.90	46	31.03	23	42.68	2	19.45	2.11	33.84	11.79		18.6
29	16	3.1	45	1	8.8	59.2	46	4.00	46	30.38	23	42.03	2	22.97	2.06	34.23	11.85		21.0
1 H. DRACONIS.* $\delta_0 = +81^\circ 53' 19''.9$																			
Mar. 28	.....											.....							.....
April 1	16	18.1	30	1	6.4	31.7	30	49.05	30	25.29	52	23.06	+0	49.26	+1.14	+24.39	-16.40	50	21.4
2	16	27.4	30	1	4.7	30.7	30	47.70	30	25.58	52	22.27	0	49.46	1.23	24.76	17.20		21.0
6	16	49.9	30	0	55.3	26.8	30	41.05	30	22.55	52	25.80	0	48.88	1.39	24.69	17.90		22.9
19	17	39.6	30	0	53.8	26.9	30	40.35	30	31.17	52	17.18	0	48.00	1.33	34.37	19.50		21.4
21	17	29.7	30	0	53.1	31.4	30	42.25	30	31.16	52	17.19	0	47.26	1.25	33.84	19.70		19.8
29	17	52.4	30	0	51.5	27.0	30	39.25	30	32.13	52	16.22	0	48.46	1.41	34.23	20.20		20.1

Date. 1872.	Right Ascension Wires.											Seconds of transit over Mean Wire.	$n \tan \delta$ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
<i>a</i> HYDRÆ.* $a_0 = 9^h 21^m 17^s.83$																
April 2	...	...	...	59.6	1.8	3.8	5.9	8.1	...	...	...	3.84	-0.05	+14.41	-0.45	21 17.75
6	...	...	...	0.0	2.1	4.2	6.4	8.5	...	...	...	4.24	0.03	14.14	0.41	17.94
21	54.9	56.9	59.0	3.1	5.2	7.3	9.3	11.3	15.5	17.6	19.8	7.26	0.02	10.81	0.20	17.85
29	...	...	...	4.9	7.0	9.1	11.2	13.2	...	...	...	9.08	0.02	8.92	0.09	17.89
<i>d</i> URSÆ MAJORIS.* $a_0 = 9^h 23^m 7^s.42$																
Mar. 28	16.7	22.7	29.0	41.0	47.5	53.9	59.9	5.8	18.0	24.3	30.6	53.58	+0.82	+15.28	-2.37	23 7.31
April 1	17.7	23.7	29.9	42.2	48.2	54.3	0.5	6.6	19.0	24.8	31.2	54.37	0.69	14.44	2.20	7.30
2	...	...	29.8	42.1	48.4	54.4	0.6	6.8	19.0	25.1	31.2	54.45	0.62	14.41	2.16	7.32
6	...	...	...	42.5	49.2	55.0	0.9	7.1	...	...	...	54.94	0.35	14.14	1.98	7.45
17	20.0	26.0	32.2	44.5	50.6	56.8	3.0	9.2	21.3	27.7	33.6	56.81	0.38	11.62	1.44	7.37
19	20.4	27.0	32.4	44.8	50.6	57.0	3.2	9.4	21.6	28.0	33.9	57.12	0.44	11.11	1.34	7.33
21	20.9	26.9	33.2	45.5	51.8	57.9	3.8	10.0	22.4	28.7	34.6	57.79	0.12	10.81	1.24	7.48
<i>β</i> CEPHEI L. C.* $a_0 = 21^h 26^m 59^s.98$																
Mar. 28	6.6	12.4	18.5	30.5	36.6	42.5	48.4	54.5	6.7	12.6	18.7	42.55	-0.80	+15.28	+3.00	26 60.03
April 1	7.7	13.4	19.3	31.5	37.4	43.4	49.3	55.6	7.4	13.7	19.7	43.49	0.68	14.44	2.76	60.01
2	7.3	13.3	19.3	31.6	37.5	43.6	49.6	55.6	7.6	13.4	19.4	43.47	0.61	14.41	2.70	59.97
6	...	...	...	31.5	37.6	43.6	49.8	55.6	...	...	...	43.62	0.34	14.14	2.47	59.89
17	10.8	16.9	22.8	35.0	41.0	47.0	53.1	59.0	11.2	17.1	23.0	46.99	0.37	11.62	1.82	60.06
19	11.7	17.4	23.4	35.8	41.6	47.6	53.7	59.6	12.0	18.0	23.8	47.69	0.43	11.11	1.67	60.04
21	...	17.5	23.4	35.7	41.7	47.9	53.7	0.0	11.7	17.9	23.8	47.72	0.12	10.81	1.55	59.96
29	14.0	20.0	26.1	38.2	44.0	50.1	56.1	2.1	14.1	20.1	26.1	50.08	0.08	8.92	1.01	59.93
42 LYNCS. $a_0 = 9^h 30^m 21^s.88$																
Mar. 28	...	...	...	1.8	4.5	7.0	9.8	12.5	...	...	...	7.12	+0.24	+15.28	-0.90	30 21.74
April 1	51.6	54.3	57.0	2.5	5.1	8.0	10.7	13.4	18.8	21.5	24.3	7.93	0.20	14.44	0.84	21.73
2	...	...	...	...	...	7.9	10.6	13.4	18.8	21.5	24.3	7.90	0.18	14.41	0.83	21.66
17	55.4	57.0	59.8	5.1	7.8	10.6	13.3	16.0	21.6	24.3	26.9	10.71	0.11	11.61	0.56	21.87
19	54.8	57.5	0.3	5.6	8.4	11.1	13.8	16.5	21.8	24.7	27.4	11.08	0.13	11.10	0.52	21.79
21	55.3	57.6	0.6	6.0	8.6	11.4	14.1	16.8	22.2	24.9	27.7	11.38	0.07	10.80	0.48	21.77
<i>ι</i> HYDRÆ. $a_0 = 9^h 33^m 19^s.17$																
Mar. 28	52.1	54.1	56.2	0.4	2.3	4.4	6.5	8.6	12.7	14.8	16.8	4.45	-0.02	+15.28	-0.58	33 19.13
April 1	52.8	54.8	56.9	1.0	3.1	5.2	7.3	9.4	13.4	15.5	17.6	5.18	0.02	14.44	0.53	19.07
2	52.8	54.9	57.0	1.1	3.1	5.2	7.2	9.4	13.4	15.5	17.6	5.20	0.02	14.41	0.52	19.07
6	53.0	55.2	57.3	1.3	3.4	5.4	7.5	9.6	13.8	15.7	17.8	5.46	0.02	14.14	0.48	19.10
17	55.4	57.5	59.6	3.8	5.8	7.8	9.9	12.0	16.0	18.1	20.1	7.82	0.02	11.61	0.34	19.07
18	...	...	...	3.8	5.9	7.9	9.9	12.0	...	...	...	7.90	0.02	11.49	0.32	19.05
29	58.0	0.2	2.1	6.3	8.5	10.5	12.5	14.5	18.6	20.7	22.7	10.42	0.01	8.91	0.18	19.14
<i>ο</i> LEONIS.* $a_0 = 9^h 34^m 19^s.03$																
April 1	52.6	54.6	56.7	0.8	3.0	5.1	7.2	9.3	13.5	15.6	17.6	5.09	+0.03	+14.44	-0.56	34 19.00
6	52.9	54.9	57.0	1.2	3.4	5.4	7.6	9.5	13.7	15.8	18.0	5.40	0.01	14.14	0.51	19.04
17	55.1	57.4	59.4	3.6	5.6	7.8	9.9	12.0	16.1	18.3	20.3	7.77	0.01	11.61	0.37	19.02
18	...	...	...	3.7	5.8	7.9	9.9	12.1	...	...	...	7.88	0.01	11.49	0.36	19.02

Date. 1871-2.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
<i>a</i> HYDRÆ.* $\delta_0 = -8^\circ 6' 18''.4$												
April 2	21 11.4	25 3	23.1	5.5	28 14.30	28 24.17	5 35.82	-1 12.69	-1.84	+24.76	+6.90	6 18.7
6	21 11.6	25 3	22.0	9.2	28 15.60	28 25.21	5 36.86	1 11.81	1.84	24.69	7.00	18.8
21	20 51.4	25 4	1.0	53.8	28 57.40	28 36.74	5 48.39	1 9.45	1.76	33.84	7.10	18.7
29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>d</i> URSÆ MAJORIS.* $\delta_0 = +70^\circ 23' 26''.9$												
Mar. 28	22 36.1	0 0	28.1	58.0	60 13.05	0 5.34	22 43.01	+0 31.99	+1.06	+24.77	-13.80	23 27.0
April 1	22 9.7	0 0	39.8	6.7	60 23.25	0 3.60	22 44.75	0 31.79	0.76	24.39	14.60	27.1
2	24 7.2	55 4	46.8	15.9	59 31.35	0 3.42	22 44.93	0 31.93	0.13	24.76	15.10	26.6
6	23 7.5	0 0	9.4	45.0	59 57.20	0 2.75	22 45.60	0 31.55	1.08	24.69	15.40	27.5
17	22 7.2	0 0	43.2	17.6	60 30.40	0 8.55	22 39.80	0 31.21	0.68	33.27	17.10	27.9
19	22 35.6	0 0	31.9	8.0	60 19.95	0 10.48	22 37.87	0 30.98	1.03	34.37	17.30	27.0
21	22 41.5	0 0	26.8	9.7	60 18.25	0 11.11	22 37.24	0 30.51	1.07	33.84	17.60	25.1
<i>β</i> CEPHEI L. C.* $\delta_0 = +110^\circ 0' 4''.1$												
Mar. 28	26 22.9	25 0	25.0	50.0	25 7.50	25 16.34	57 32.01	+2 24.99	+2.26	+24.77	-19.10	0 4.9
April 1	26 29.2	25 0	29.1	52.8	25 10.95	25 17.37	57 30.98	2 24.08	2.22	24.39	19.80	1.9
2	27 24.2	25 0	51.8	16.3	25 34.05	25 15.78	57 32.57	2 24.72	2.48	24.76	20.00	4.5
6	26 38.5	25 0	26.9	58.2	25 12.55	25 14.88	57 33.47	2 22.97	2.20	24.69	20.60	2.7
17	26 2.0	25 0	14.9	47.0	25 0.95	25 21.15	57 27.20	2 21.43	2.54	33.27	21.80	2.6
19	27 45.9	25 0	0.9	33.9	24 47.40	25 21.28	57 27.07	2 20.41	2.61	34.37	21.80	2.7
21	(26 30.3)	25 0	24.7	1.8	25 13.25	25 21.11	57 27.24	2 18.27	2.24	33.84	21.90	(59.7)
29	26 11.3	25 0	16.6	51.8	25 4.20	25 21.61	57 26.74	2 21.76	2.46	34.23	22.20	3.0
42 LYNCIS. $\delta_0 = +40^\circ 48' 47''.8$												
Mar. 28	30 18.1	30 4	20.8	55.3	34 8.05	34 18.98	48 29.37	-0 1.65	-0.13	+24.77	-6.07	48 46.3
April 1	30 8.6	30 4	30.3	3.9	34 17.10	34 17.79	48 30.56	0 1.63	0.10	24.39	6.64	46.6
2	30 20.4	30 4	18.3	53.0	34 5.65	34 18.06	48 30.29	0 1.64	0.15	24.76	6.79	46.5
17	29 48.6	30 4	57.5	36.3	34 46.90	34 24.95	48 23.40	0 1.61	0.15	33.27	8.67	46.2
19	29 44.2	35 0	3.2	41.9	34 52.55	34 25.84	48 22.51	0 1.59	0.21	34.37	8.89	46.2
21	29 46.4	30 4	57.2	42.8	34 50.00	34 25.18	48 23.17	0 1.57	0.18	33.84	9.10	46.2
<i>ι</i> HYDRÆ. $\delta_0 = -0^\circ 33' 47''.3$												
Mar. 28	32 44.4	55 1	44.1	25.7	56 34.90	56 8.66	33 20.31	-0 55.95	-1.63	+24.77	+4.97	33 48.2
April 1	32 39.4	55 1	53.0	32.1	56 42.55	56 8.69	33 20.34	0 55.57	1.63	24.39	4.99	48.2
2	32 48.1	55 1	40.9	21.7	56 31.30	56 8.86	33 20.51	0 55.86	1.63	24.76	5.00	48.2
6	32 47.1	55 1	41.0	26.0	56 33.50	56 9.36	33 21.01	0 55.16	1.63	24.69	5.01	48.1
17	32 52.0	55 1	45.3	31.0	56 38.15	56 17.42	33 29.07	0 54.62	1.59	33.27	4.85	47.2
18	33 5.7	55 1	27.1	14.5	56 20.80	56 17.91	33 29.56	0 54.20	1.60	33.19	4.83	47.3
29	32 52.2	55 1	47.2	36.9	56 42.05	56 18.18	33 29.83	0 54.74	1.56	34.23	4.49	47.4
<i>o</i> LEONIS.* $\delta_0 = +10^\circ 28' 23''.8$												
April 1	33 45.1	50 4	49.7	27.4	54 38.55	54 12.74	28 35.61	-0 37.20	-1.34	+24.39	+2.10	28 23.6
6	33 48.8	50 4	42.2	26.0	54 34.10	54 12.68	28 35.67	0 36.93	1.33	24.69	1.90	24.0
17	33 47.5	50 4	56.2	39.8	54 48.00	54 21.80	28 26.55	0 36.56	1.24	33.27	1.40	23.4
18	34 2.4	50 4	36.6	21.1	54 28.85	54 21.75	28 26.60	0 36.29	1.21	33.19	1.30	23.6

Date. 1872.	Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
ψ LEONIS. $a_0 = 9^h 36^m 45^s.54$																
April 1	18.9	21.0	23.1	27.3	29.6	31.6	33.8	35.9	40.1	42.2	44.5	31.64	+0.05	+14.44	-0.60	36 45.53
2	19.0	21.0	23.1	27.4	29.5	31.7	33.7	35.9	40.2	42.3	44.4	31.65	+0.05	14.41	0.59	45.52
6	18.9	21.1	23.4	27.7	29.8	31.9	34.1	36.2	40.5	42.7	44.7	31.91	+0.02	14.14	0.54	45.53
17	21.6	23.5	25.7	30.0	32.2	34.2	36.4	38.5	42.8	44.9	47.0	34.25	+0.02	11.61	0.40	45.48
18	21.6	23.8	25.9	30.2	32.2	34.4	36.5	38.8	42.9	45.0	47.2	34.41	+0.02	11.49	0.39	45.53
21	22.3	24.5	26.5	30.8	32.9	35.0	37.2	39.3	43.6	45.7	48.0	35.07	-0.00	10.80	0.35	45.52
29	24.1	26.2	28.4	32.7	34.8	36.9	39.0	41.1	45.4	47.5	49.7	36.89	-0.01	8.91	0.24	45.55
ϵ LEONIS.* $a_0 = 9^h 38^m 34^s.91$																
Mar. 28	6.7	9.0	11.3	15.7	18.1	20.4	22.5	24.8	29.3	31.6	33.8	20.29	+0.12	+15.28	-0.72	38 34.97
April 1	7.6	9.8	11.9	16.5	18.9	21.0	23.3	25.6	30.0	32.4	34.7	21.06	0.10	14.44	0.67	34.93
2	7.5	9.9	12.1	16.5	18.8	21.0	23.3	25.6	30.1	32.4	34.7	21.08	0.09	14.41	0.66	34.92
6	7.7	10.0	12.3	16.8	19.0	21.4	23.6	25.8	30.4	32.6	34.9	21.32	0.05	14.14	0.61	34.90
17	10.2	12.4	14.8	19.2	21.5	23.7	25.9	28.3	32.8	35.1	37.3	23.74	0.05	11.61	0.46	34.94
18	10.2	12.5	14.7	19.3	21.5	23.8	26.1	28.3	32.7	35.1	37.4	23.78	0.05	11.49	0.45	34.87
21	10.9	13.2	15.5	20.0	22.3	24.5	26.8	29.0	33.6	35.8	38.0	24.51	0.01	10.80	0.40	34.92
29	12.7	15.0	17.1	21.8	24.0	26.3	28.6	30.9	35.5	37.6	39.9	26.31	0.00	8.91	0.29	34.93
11 CEPHEI L. C.* $a_0 = 21^h 40^m 2^s.35$																
Mar. 28	...	...	...	...	38.3	44.5	50.9	57.0	...	...	...	44.42	-0.82	+15.28	+3.24	40 2.12
April 1	...	...	...	...	...	45.5	51.8	58.0	10.4	16.4	22.8	45.47	0.70	14.44	3.02	2.23
18	...	...	...	36.8	43.2	49.5	55.5	1.7	...	...	...	49.34	0.41	11.49	2.02	2.44
21	...	...	...	...	...	49.3	56.1	2.2	14.4	20.9	27.3	49.68	0.12	10.80	1.82	2.18
29	...	...	...	...	...	...	58.5	4.8	17.3	23.2	29.4	52.22	0.08	8.91	1.28	2.33
ν URSÆ MAJORIS.* $a_0 = 9^h 41^m 52^s.11$																
Mar. 28	...	...	...	29.7	33.8	38.0	42.0	46.1	...	...	...	37.92	+0.49	+15.28	-1.62	41 52.07
April 1	...	...	...	30.6	34.7	38.8	42.9	47.0	...	...	...	38.80	0.41	14.44	1.52	52.13
2	14.3	18.3	22.5	30.7	34.8	38.8	42.9	46.9	55.0	59.1	3.3	38.78	0.37	14.41	1.50	52.06
6	14.8	18.7	22.7	31.0	35.0	38.9	43.0	47.2	55.4	59.4	3.4	39.05	0.21	14.14	1.40	52.00
ϕ URSÆ MAJORIS. $a_0 = 9^h 43^m 23^s.00$																
April 2	...	...	...	...	...	...	...	16.6	24.0	27.3	31.0	9.55	+0.30	+14.41	-1.30	43 22.96
18	50.7	54.3	57.9	4.9	8.6	12.2	15.6	19.3	26.4	30.0	33.5	12.12	0.20	11.49	0.93	22.88
21	51.6	55.2	58.7	5.7	9.4	12.8	16.4	20.0	...	...	...	12.92	0.06	10.80	0.85	22.93
29	53.0	56.8	0.2	7.4	11.0	14.6	18.0	21.5	28.8	32.3	35.9	14.50	0.04	8.91	0.64	22.81
μ LEONIS.* $a_0 = 9^h 45^m 28^s.74$																
April 1	1.0	3.4	5.7	10.4	12.7	14.9	17.2	19.6	24.2	26.4	28.8	14.94	+0.11	+14.44	-0.73	45 28.76
2	1.2	3.5	5.7	10.4	12.6	15.0	17.3	19.6	24.1	26.6	28.8	14.98	0.10	14.41	0.72	28.77
6	1.4	3.7	6.0	10.7	13.0	15.2	17.5	19.8	24.4	26.7	29.0	15.22	0.05	14.14	0.67	28.74
17	3.9	6.1	8.4	13.0	15.4	17.7	20.0	22.2	26.9	29.1	31.4	17.65	0.06	11.61	0.51	28.81
18	3.9	6.2	8.6	13.2	15.4	17.7	20.0	22.4	26.8	29.3	31.6	17.74	0.06	11.49	0.50	28.79
29	6.3	8.7	11.0	15.6	17.8	20.1	22.5	24.8	29.3	31.8	34.0	20.17	0.01	8.91	0.34	28.75

Date. 1872.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.							
			E.	G.															
ψ LEONIS. $\delta_0 = + 14^\circ 36' 21''.2$																			
April 1	m. 36	s. 10.5	45	1	58.5	37.1	46	47.80	46	21.01	36	27.34	-0	31.47	-1.19	+24.39	+1.02	36	20.1
2	36	12.0	45	1	56.0	35.1	46	45.50	46	20.49	36	27.86	0	31.63	1.18	24.76	0.96	20.8	
6	36	35.7	45	1	24.5	7.0	46	15.75	46	20.57	36	27.78	0	31.24	1.12	24.69	0.73	20.8	
17	36	17.6	45	1	58.5	43.3	46	50.90	46	29.69	36	18.66	0	30.93	1.13	33.27	0.06	19.9	
18	36	15.1	45	1	0.8	45.5	46	53.15	46	28.64	36	19.71	0	30.70	1.15	33.19	+0.00	21.0	
21	36	16.8	45	1	57.1	48.1	46	52.60	46	29.36	36	18.99	0	30.23	1.13	33.84	-0.18	21.1	
29	36	22.2	45	1	54.9	43.0	46	48.95	46	30.28	36	18.07	0	31.00	1.10	34.23	-0.72	19.5	
ϵ LEONIS.* $\delta_0 = + 24^\circ 21' 44''.0$																			
Mar. 28	38	2.5	0	1	41.5	16.6	1	29.05	1	7.77	21	40.58	-0	19.58	-0.81	+24.77	-1.40	21	43.6
April 1	38	6.9	0	1	36.9	10.7	1	23.80	1	6.83	21	41.52	0	19.45	0.78	24.39	1.70	44.0	
2	37	59.7	0	1	46.1	20.5	1	33.30	1	7.72	21	40.63	0	19.54	0.84	24.76	1.80	43.2	
6	38	2.6	0	1	41.2	20.2	1	30.70	1	8.34	21	40.01	0	19.31	0.83	24.69	2.20	42.4	
17	38	6.4	0	1	46.9	25.9	1	36.40	1	15.72	21	32.63	0	19.11	0.77	33.27	3.10	42.9	
18	38	1.4	0	1	51.3	30.4	1	40.85	1	14.07	21	34.28	0	18.97	0.81	33.19	3.20	44.5	
21	38	18.9	0	1	28.3	15.1	1	21.70	1	15.01	21	33.34	0	18.68	0.72	33.84	3.40	44.4	
29	38	18.9	0	1	32.8	15.9	1	24.35	1	15.51	21	32.84	0	19.15	0.70	34.23	4.10	43.1	
11 CEPHEI L. C.* $\delta_0 = + 109^\circ 16' 40''.1$																			
Mar. 28	40	4.0	5	4	2.1	27.5	8	44.80	8	36.35	14	12.00	+2	20.11	+2.20	+24.77	-18.30	16	40.8
April 1	40	10.5	5	4	4.8	29.6	8	47.20	8	36.37	14	11.98	2	19.14	2.24	24.39	19.00	38.8	
18	39	31.7	5	3	47.1	20.1	8	33.60	8	41.23	14	7.12	2	15.74	2.27	33.19	21.30	37.0	
21	40	11.4	5	4	0.6	38.6	8	49.60	8	40.20	14	8.15	2	13.66	2.29	33.84	21.50	36.4	
29	40	13.4	5	4	2.0	37.4	8	49.70	8	40.51	14	7.84	2	17.07	2.36	34.23	21.80	39.7	
ν URSÆ MAJORIS.* $\delta_0 = + 59^\circ 38' 19''.8$																			
Mar. 28	41	52.6	45	0	5.9	37.0	44	51.45	45	1.20	37	47.15	+0	18.71	+0.59	+24.77	-10.40	38	20.8
April 1	41	50.2	45	0	8.7	37.9	44	53.30	45	0.86	37	47.49	0	18.57	0.61	24.39	11.10	20.0	
2	41	14.9	45	0	31.1	1.3	45	16.20	45	0.34	37	48.01	0	18.68	0.55	24.76	11.30	20.7	
6	41	3.9	45	0	34.6	8.5	45	21.55	44	58.26	37	50.09	0	18.44	0.40	24.69	12.00	21.6	
ϕ URSÆ MAJORIS. $\delta_0 = + 54^\circ 39' 39''.0$																			
April 2	43	23.9	40	3	41.1	11.8	43	26.45	43	37.28	39	11.07	+0	13.09	+0.40	+24.76	-9.99	59	39.3
18	42	43.6	40	4	15.1	52.4	44	3.75	43	42.13	39	6.22	0	12.70	0.32	33.19	12.50	39.9	
21	42	46.3	40	4	12.7	54.9	44	3.80	43	43.70	39	4.65	0	12.51	0.35	33.84	12.86	38.5	
29	42	48.9	40	4	12.4	52.2	44	2.30	43	42.88	39	5.47	0	12.83	0.44	34.23	13.73	39.2	
μ LEONIS.* $\delta_0 = + 26^\circ 36' 30''.7$																			
April 1	44	56.7	45	1	57.3	30.1	46	43.70	46	22.35	36	26.00	-0	16.89	-0.73	+24.39	-2.10	36	30.7
2	44	55.7	45	1	59.0	32.9	46	45.95	46	23.31	36	25.04	0	16.98	0.74	24.76	2.20	29.9	
6	44	56.4	45	1	56.0	34.6	46	45.30	46	23.24	36	25.11	0	16.77	0.74	24.69	2.60	29.7	
17	44	58.5	45	2	3.1	43.8	46	53.45	46	31.04	36	17.31	0	16.61	0.70	33.27	3.70	29.6	
18	44	59.5	45	2	1.7	42.0	46	51.85	46	30.50	36	17.85	0	16.49	0.69	33.19	3.80	30.1	
29	45	0.0	45	2	2.6	46.0	46	54.30	46	30.60	36	17.75	0	16.65	0.66	34.23	4.60	30.1	

Date.	Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
1872.	1	2	3	4	5	6	7	8	9	10	11						
April 1 6 17 18 19 21 26 27	GROOM. 1586.* $a_0 = 9^h 46^m 52^s.99$																
	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m.	s.
	...	...	...	26.2	34.0	40.8	48.2	55.3	...	...	...	40.90	+0.83	+14.44	-3.05	46	53.12
	57.9	4.9	12.2	26.7	34.2	41.3	48.5	55.9	10.2	17.5	24.7	41.27	0.42	14.14	2.81		53.02
	0.1	7.0	14.3	28.6	35.8	43.2	50.7	57.7	12.4	19.5	26.8	43.28	0.45	11.61	2.21		53.13
	59.7	7.4	14.3	28.7	36.2	43.2	50.4	57.5	12.4	19.6	26.9	43.30	0.49	11.49	2.15		53.13
	...	...	...	28.8	36.0	43.4	50.8	57.9	...	...	...	43.38	0.53	11.10	2.09		52.92
	...	...	...	...	36.9	44.4	51.5	58.6	13.1	20.2	27.4	44.14	0.14	10.80	1.98		53.10
26	1.6	8.8	16.0	30.8	38.8	45.0	52.4	59.7	14.3	21.3	28.7	45.22	0.15	9.76	1.68		53.15
27	1.6	8.8	16.2	30.4	37.7	45.0	52.2	59.5	14.0	21.1	28.6	45.01	0.08	9.60	1.62		53.07
April 1 2 6 17 18 19 26	B. A. C. 3398. $a_0 = 9^h 49^m 38^s.76$																
	12.3	14.4	16.6	20.8	22.8	24.8	27.0	29.1	33.2	35.3	37.4	24.88	+0.03	+14.44	-0.63	49	38.72
	12.5	14.5	16.6	20.8	22.9	25.0	27.1	29.2	33.2	35.4	37.4	24.96	0.02	14.41	0.62		38.77
	12.7	14.7	16.8	20.8	23.0	25.1	27.3	29.3	33.4	35.6	37.7	25.13	0.01	14.14	0.58		38.70
	15.1	17.1	19.2	23.4	25.5	27.5	29.6	31.7	35.9	38.0	40.0	27.55	0.01	11.61	0.45		38.72
	15.2	17.3	19.3	23.4	25.6	27.6	29.6	31.7	35.9	38.0	40.1	27.61	0.01	11.49	0.44		38.67
	14.6	17.7	19.6	23.9	26.0	28.0	30.2	32.4	36.4	38.5	40.7	28.00	0.01	11.10	0.42		38.69
26	16.7	18.8	20.9	25.1	27.3	29.4	31.4	33.4	37.6	39.8	41.9	29.30	-0.02	9.76	0.33		38.71
April 17 18 23 27 29 30	ν^2 HYDRÆ. $a_0 = 9^h 58^m 53^s.52$																
	29.7	31.8	33.9	38.2	40.3	42.4	44.6	46.7	50.9	52.9	55.0	42.40	-0.05	+11.61	-0.45	58	53.51
	29.7	32.0	34.0	38.3	40.4	42.6	44.6	46.7	51.0	53.1	55.2	42.51	0.05	11.49	0.44		53.51
	31.0	33.2	35.4	39.6	41.8	43.8	45.9	48.0	52.3	54.4	56.5	43.81	0.03	10.19	0.38		53.59
	31.7	33.7	35.8	40.0	42.0	44.3	46.4	48.5	52.6	54.8	56.9	44.25	0.03	9.60	0.32		53.50
	32.3	34.4	36.6	40.7	42.8	45.0	47.0	49.2	53.4	55.4	57.5	44.94	0.02	8.91	0.30		53.53
	...	...	...	40.8	43.0	45.0	47.1	49.3	...	...	...	45.04	0.03	8.71	0.28		53.44
April 17 18 23 26 27 29 30	η LEONIS.* $a_0 = 10^h 0^m 21^s.08$																
	57.1	59.2	1.3	5.7	7.8	9.9	12.1	14.3	18.6	20.8	22.9	9.97	+0.03	+11.61	-0.54	0	21.07
	57.1	59.4	1.5	5.7	7.8	10.1	12.2	14.4	18.7	20.8	23.0	0.06	0.03	11.49	0.53		21.05
	58.3	0.5	2.7	7.1	9.1	11.4	13.6	15.7	20.0	22.2	24.4	11.36	0.00	10.19	0.47		21.08
	58.8	1.0	3.0	7.5	9.6	11.7	14.0	16.1	20.4	22.6	24.8	11.77	-0.02	9.76	0.43		21.08
	59.0	1.0	3.3	7.6	9.8	12.0	14.1	16.2	20.5	22.7	24.9	11.92	0.00	9.60	0.42		21.10
	...	...	...	8.4	10.5	12.5	14.6	16.8	...	...	...	12.56	0.00	8.91	0.39		21.08
30	...	...	...	8.4	10.6	12.7	14.9	17.0	...	...	...	12.72	0.00	8.71	0.38		21.05
April 17 18 23 25 26 27 29 30	α LEONIS.* $a_0 = 10^h 1^m 33^s.18$																
	9.4	11.5	13.6	17.9	20.0	22.0	24.2	26.3	30.5	32.6	34.8	22.07	+0.02	+11.61	-0.51	1	33.19
	9.6	11.6	13.6	17.8	20.0	22.2	24.3	26.4	30.6	32.8	34.8	22.15	0.02	11.49	0.50		33.16
	10.8	12.9	15.0	19.3	21.4	23.4	25.6	27.7	31.9	34.1	36.1	23.47	0.00	10.19	0.44		33.22
	10.9	12.9	15.1	19.3	21.4	23.6	25.7	27.8	32.0	34.1	36.2	23.54	0.00	10.05	0.42		33.17
	11.2	13.2	15.3	19.6	21.7	23.8	25.8	28.0	32.2	34.4	36.6	23.80	0.02	9.76	0.41		33.13
	11.3	13.4	15.6	19.7	21.8	24.0	26.1	28.3	32.4	34.6	36.7	23.99	0.01	9.60	0.39		33.19
	...	...	...	20.4	22.6	24.7	26.7	29.0	...	...	...	24.68	0.01	8.91	0.37		33.21
30	...	...	...	20.6	22.7	24.8	26.9	29.0	...	...	...	24.80	0.00	8.71	0.36		33.15
April 23 25 26 27 30	λ HYDRÆ. $a_0 = 10^h 4^m 20^s.96$																
	58.6	0.8	2.8	7.0	9.1	11.3	13.4	15.5	19.7	21.8	23.9	11.26	-0.00	+ 10.19	-0.40	4	21.05
	58.6	0.7	2.8	7.0	9.2	11.3	13.4	15.4	19.7	21.8	23.9	11.25	0.00	10.05	0.38		20.92
	59.0	0.0	3.2	7.3	9.4	11.6	13.7	15.7	20.0	22.0	24.2	11.46	0.02	9.76	0.37		20.83
	59.0	1.1	3.3	7.4	9.5	11.7	13.7	15.8	20.1	22.1	24.4	11.65	0.01	9.60	0.35		20.89
	59.8	2.0	4.0	8.3	10.4	12.5	14.6	16.7	20.9	22.9	25.0	12.46	0.01	8.71	0.31		20.85

Date. 1872.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.		
			E.	G.										
GROOM. 1586. $\delta_0 = + 73^\circ 29' 10''.4$														
April 1	m.	s.	'	'	"	"	'	"	'	"	'	"	'	"
6	46	13.7	50	4	46.5	21.0	54	33.75	54	23.72	28	24.63	+0 35.81 +1.05 +24.69 -14.90	29 11.3
17	46	25.4	50	4	50.1	25.2	54	37.65	54	31.01	28	17.34	0 35.50 1.22 33.27 16.80	10.5
18	46	18.1	50	4	52.0	27.1	54	39.55	54	30.19	28	18.16	0 35.20 1.18 33.19 16.90	10.8
19	46	21.7	50	4	54.1	27.0	54	40.55	54	32.48	28	15.87	0 35.20 1.20 34.37 17.10	9.4
21	47	10.4	50	4	31.5	12.4	54	21.95	54	31.74	28	16.61	0 34.66 1.14 33.84 17.80	8.5
26	45	37.1	55	0	1.4	45.9	54	53.65	54	28.19	28	20.16	0 33.55 0.67 35.08 17.90	11.6
27	45	47.0	55	0	0.0	41.7	54	50.85	54	29.21	28	19.14	0 34.86 0.86 35.45 18.00	12.3
B. A. C. 3398. $\delta_0 = + 9^\circ 32' 20''.3$														
April 1	49	8.7	50	0	49.1	26.3	50	37.70	50	16.74	32	31.61	-0 38.58 -1.32 +24.39 +2.60	32 18.7
2	49	7.8	50	0	49.5	28.3	50	38.90	50	16.64	32	31.71	0 38.80 1.33 24.76 2.56	19.0
6	49	6.2	50	0	51.0	33.0	50	42.00	50	17.54	32	30.81	0 38.31 1.33 24.69 2.40	18.3
17	49	11.7	50	0	54.1	38.9	50	46.50	50	26.05	32	22.30	0 37.98 1.30 33.27 1.88	18.2
18	49	9.9	50	0	52.9	42.0	50	49.95	50	27.04	32	21.31	0 37.66 1.31 33.19 1.83	17.4
19	49	4.9	50	0	4.5	51.9	50	58.21	50	28.25	32	20.10	0 37.66 1.33 34.37 1.78	17.3
26	49	46.9	50	0	11.9	4.2	50	8.05	50	30.82	32	17.53	0 35.88 1.32 35.08 1.39	16.8
ν^2 HYDRÆ. $\delta_0 = - 12^\circ 26' 40''.6$														
April 17	58	29.3	45	4	12.3	59.8	49	6.05	48	49.26	26	0.91	-1 23.29 -1.88 +33.27 +8.32	26 44.5
18	58	25.2	45	4	26.0	55.8	49	10.90	48	48.73	26	0.38	1 22.65 1.86 33.19 8.33	43.3
23	58	28.2	45	4	13.9	2.8	49	8.35	48	48.36	26	0.01	1 23.61 1.78 34.45 8.38	42.6
27	58	27.1	45	4	17.1	13.1	49	15.10	48	53.18	26	4.83	1 21.80 1.76 35.45 8.39	44.6
29	58	27.2	45	4	17.1	10.2	49	13.65	48	50.97	26	2.62	1 23.45 1.76 34.23 8.37	45.2
30	58	27.3	45	4	16.9	10.9	49	13.90	48	51.22	26	2.87	1 22.67 1.76 35.06 8.36	43.9
η LEONIS.* $\delta_0 = + 17^\circ 23' 8''.6$														
April 17	59	52.7	0	0	13.7	58.0	60	5.85	59	44.18	23	4.17	-0 27.44 -1.05 +33.27 -0.40	23 8.5
18	59	50.8	0	0	16.9	1.5	60	9.20	59	45.03	23	3.32	0 27.23 1.06 33.19 0.50	7.7
23	00	00.0	0	0	6.5	51.9	59	59.20	59	44.92	23	3.43	0 27.55 0.87 34.45 0.90	8.6
26	59	48.5	0	0	21.1	14.9	60	18.00	59	48.82	22	59.53	0 25.96 1.08 35.08 1.10	6.5
27	59	52.8	0	0	14.9	6.1	60	10.50	59	46.58	23	1.77	0 26.95 1.05 35.45 1.10	8.1
29	00	20.0	55	4	42.7	21.0	59	31.85	59	41.12	23	7.23	0 27.49 0.88 34.23 1.30	11.8
30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
α LEONIS.* $\delta_0 = + 12^\circ 35' 30''.2$														
April 17	1	7.6	45	2	44.3	28.8	47	36.55	47	17.98	35	30.37	-0 33.69 -1.17 +33.27 +1.10	35 29.9
18	1	8.1	45	2	44.8	28.9	47	36.85	47	18.79	35	29.56	0 33.43 1.17 33.19 1.00	29.1
23	1	21.3	45	2	30.5	16.1	47	23.30	47	20.48	35	27.87	0 33.82 1.10 34.45 0.70	28.1
25	1	7.4	45	2	45.9	33.9	47	39.90	47	19.28	35	29.07	0 33.18 1.12 33.61 0.60	29.0
26	1	5.5	45	2	50.9	42.2	47	46.55	47	23.11	35	25.24	0 31.86 1.13 35.08 0.50	27.8
27	1	7.9	45	2	45.5	38.3	47	41.90	47	21.28	35	27.07	0 33.09 1.12 35.45 0.50	28.8
29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
30	1	6.0	45	2	49.8	38.9	47	44.35	47	20.27	35	28.08	0 33.44 1.14 35.06 0.30	28.9
λ HYDRÆ. $\delta_0 = - 11^\circ 43' 20''.8$														
April 23	3	53.8	5	0	57.8	46.1	5	51.95	5	29.46	42	41.11	-1 21.48 -1.87 +34.45 +8.20	43 21.8
25	3	54.1	5	0	57.9	49.2	5	53.55	5	31.45	42	43.10	1 19.89 1.86 33.61 8.20	23.0
26	3	49.6	5	1	6.8	3.0	6	4.90	5	36.78	42	48.43	1 16.78 1.85 35.08 8.19	23.8
27	3	53.7	5	0	58.9	54.1	5	56.50	5	33.49	42	45.14	1 19.69 1.86 35.45 8.19	23.0
30	3	55.1	5	0	58.1	50.8	5	54.45	5	32.09	42	43.74	1 20.55 1.86 35.06 8.18	22.9

Date. 1872.	Right Ascension Wires.											Seconds of Transit over Mean Wire.	$n \tan \delta$ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
32 URSAE MAJORIS. $\alpha_0 = 10^h 8^m 42^s.70$																
April 18	2.4	7.3	12.4	22.5	27.6	32.4	37.6	42.6	52.7	57.5	2.6	32.51	+0.32	+11.49	-1.73	8 42.59
21	...	...	...	23.2	28.3	33.4	38.3	43.3	...	...	...	33.30	0.09	10.80	1.62	42.57
22	...	...	...	23.6	28.6	33.4	38.6	43.6	...	...	...	33.56	0.01	10.52	1.59	42.50
23	...	...	...	23.9	28.9	33.8	38.8	43.8	...	...	...	33.84	0.11	10.19	1.55	42.59
25	...	...	...	23.9	29.0	33.9	38.9	44.0	...	...	...	33.94	0.12	10.05	1.48	42.63
27	4.3	9.1	14.3	24.3	29.3	34.3	39.3	44.3	54.5	59.4	4.5	34.33	0.05	9.60	1.40	42.58
29	...	...	...	24.9	29.7	34.9	39.9	45.1	...	...	...	34.90	0.06	8.91	1.32	42.55
30	...	...	...	25.0	30.2	35.1	40.0	45.1	...	...	...	35.08	0.08	8.71	1.28	42.59
λ URSAE MAJORIS.* $\alpha_0 = 10^h 9^m 22^s.07$																
April 21	...	...	...	6.3	9.2	12.0	15.0	17.8	...	...	...	12.06	+0.03	+10.80	-0.82	9 22.07
22	...	...	...	6.7	9.3	12.4	15.0	18.0	...	...	...	12.28	0.00	10.52	0.80	22.00
23	...	...	...	6.8	9.7	12.6	15.5	18.4	...	...	...	12.60	0.04	10.19	0.78	22.05
25	...	...	...	7.0	10.0	12.7	15.6	18.4	...	...	...	12.74	0.04	10.05	0.75	22.08
30	...	...	...	8.3	11.1	14.0	16.8	19.6	...	...	...	13.96	0.03	8.71	0.66	22.04
22 SEXTANTIS. $\alpha_0 = 10^h 11^m 16^s.16$																
April 18	...	...	...	1.2	3.2	5.3	7.3	9.3	...	...	...	5.26	-0.04	+11.49	-0.50	11 16.21
21	53.4	55.6	57.6	1.7	3.7	5.8	7.8	10.0	14.2	16.3	18.2	5.85	0.02	10.80	0.47	16.16
23	54.0	56.0	58.0	2.4	4.5	6.6	8.6	10.7	14.8	16.9	19.0	6.50	0.02	10.19	0.44	16.23
25	54.2	56.3	58.3	2.5	4.6	6.7	8.7	10.8	15.0	17.0	19.1	6.65	0.03	10.05	0.42	16.25
27	54.6	56.6	58.7	2.8	5.0	7.0	9.1	11.1	15.3	17.4	19.6	7.02	0.02	9.60	0.39	16.21
29	...	...	...	...	...	...	9.8	11.8	16.0	18.1	20.2	7.70	0.02	8.91	0.37	16.22
30	55.4	57.5	59.5	3.7	5.8	7.9	10.0	12.0	16.2	18.2	20.3	7.86	0.02	8.71	0.36	16.19
γ LEONIS pr. $\alpha_0 = 10^h 12^m 54^s.78$																
April 18	30.7	32.8	35.0	39.4	41.7	43.8	46.0	48.2	52.6	54.7	57.0	43.81	+0.04	+11.49	-0.62	12 54.72
22	31.7	34.0	36.1	40.5	42.8	44.9	47.1	49.3	53.7	55.9	58.0	44.91	-0.01	10.52	0.57	54.85
23	32.0	34.2	36.3	40.8	43.8	45.1	47.4	49.5	53.9	56.0	58.4	45.22	+0.01	10.19	0.56	54.86
25	32.1	34.3	36.6	40.8	43.0	45.3	47.4	49.7	54.0	56.2	58.5	45.26	+0.01	10.05	0.53	54.79
26	32.3	34.6	36.8	41.2	43.4	45.6	47.8	50.0	54.4	56.6	58.8	45.59	-0.03	9.76	0.52	54.80
27	32.4	34.6	36.9	41.1	43.4	45.6	47.9	50.1	54.5	56.7	58.9	45.65	+0.00	9.60	0.50	54.75
29	33.1	35.4	37.5	42.0	44.2	46.4	48.6	50.8	55.1	57.3	59.6	46.36	0.00	8.91	0.48	54.79
30	33.3	35.5	37.7	42.1	44.4	46.4	48.7	51.0	55.3	57.5	59.7	46.51	0.00	8.71	0.47	54.75
μ URSAE MAJORIS.* $\alpha_0 = 10^h 14^m 41^s.73$																
April 18	14.3	17.0	19.7	25.4	28.2	30.9	33.7	36.6	42.0	44.8	47.7	30.94	+0.12	+11.49	-0.89	14 41.66
21	15.2	17.9	20.6	26.0	28.9	31.7	34.5	37.3	42.9	45.4	48.3	31.70	0.03	10.80	0.83	41.70
22	15.5	18.2	20.9	26.5	29.0	32.0	34.8	37.7	43.0	46.0	48.8	32.04	0.00	10.52	0.81	41.75
23	15.6	18.3	21.1	26.8	29.5	32.3	35.0	37.8	43.4	46.1	49.0	32.26	0.04	10.19	0.80	41.69
25	15.7	18.5	21.3	26.9	29.6	32.3	35.2	38.0	43.6	46.3	49.0	32.40	+0.04	10.05	0.77	41.72
26	16.0	18.7	21.6	27.1	30.0	32.8	35.6	38.4	43.9	46.6	49.4	32.74	-0.05	9.76	0.75	41.70
27	16.0	18.9	21.7	27.3	30.0	32.8	35.5	38.3	43.9	46.7	49.6	32.79	+0.01	9.60	0.73	41.67
29	16.8	19.5	22.3	27.9	30.7	33.5	36.0	39.0	44.6	47.4	50.1	33.44	0.02	8.91	0.70	41.67
30	17.0	19.7	22.6	28.1	30.9	33.7	36.5	39.2	44.7	47.6	50.4	33.67	0.03	8.71	0.68	41.73
γ ANTLÆ. $\alpha_0 = 10^h 18^m 2^s.68$																
April 21	38.3	40.6	42.9	47.6	50.1	52.4	54.7	57.0	1.8	4.1	6.6	52.37	-0.05	+10.80	-0.53	18 2.59
22	38.7	40.9	43.3	48.2	50.4	52.8	55.0	57.3	2.0	4.3	6.8	52.70	0.03	10.52	0.51	2.68
23	38.9	41.2	43.6	48.3	50.6	53.0	55.3	57.8	2.5	4.8	7.2	53.02	0.05	10.19	0.50	2.66
26	39.1	41.5	44.0	48.6	50.8	53.3	55.6	57.9	2.6	5.0	7.4	53.25	0.00	9.76	0.45	2.56
27	39.3	41.6	44.1	48.7	51.0	53.5	55.8	58.3	2.9	5.3	7.8	53.48	0.04	9.60	0.44	2.60
29	40.0	42.3	44.8	49.5	51.7	54.1	56.5	58.8	3.5	6.0	8.3	54.14	0.04	8.91	0.41	2.60
30	40.1	42.6	44.9	49.6	52.0	54.3	56.7	59.0	3.7	6.0	8.5	54.31	0.05	8.71	0.39	2.58

Date. 1872.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
32 URSÆ MAJORIS. $\delta_0 = + 65^\circ 44' 43''.3$												
April 18	m. 7 54.0	' 35 4	' 23.2	' 57.0	' 39 10.10	' 38 49.36	' 43 58.99	+0 25.24	+0.67	+33.19	-14.25	44 43.8
21	8 5.0	35 4	14.1	55.0	39 4.55	38 49.31	43 59.04	0 24.85	0.91	33.84	14.71	43.9
22	7 50.7	35 4	23.5	3.9	39 13.70	38 50.81	43 57.54	0 25.30	0.69	34.33	14.86	43.0
23	8 12.2	35 4	14.1	50.1	39 2.10	38 50.46	43 57.89	0 25.54	0.96	34.45	15.00	43.8
25	7 47.8	35 4	24.0	3.6	39 13.80	38 48.97	43 59.38	0 25.04	0.63	33.61	15.28	43.4
27	7 55.8	35 4	19.1	2.8	39 10.95	38 50.25	43 58.10	0 24.98	0.76	35.45	15.53	43.8
29	8 12.5	35 4	13.0	51.1	39 2.05	38 49.95	43 58.40	0 25.48	0.96	34.23	15.76	43.3
30	7 55.6	35 4	20.0	59.9	39 9.95	38 48.67	43 59.68	0 25.25	0.75	35.06	15.87	44.9
λ URSÆ MAJORIS.* $\delta_0 = + 43^\circ 33' 7''.9$												
April 21	9 23.0	50 0	3.9	50.0	49 56.95	50 7.29	32 41.06	+0 1.18	+0.06	+33.84	-8.70	33 7.4
22	9 26.1	50 0	1.7	46.4	49 54.05	50 7.18	32 41.17	0 1.20	0.13	34.33	8.90	7.9
23	9 27.6	50 0	2.5	42.8	49 52.65	50 6.92	32 41.43	0 1.21	0.12	34.45	9.00	8.2
25	9 22.7	50 0	5.2	49.1	49 57.15	50 6.66	32 41.69	0 1.19	0.15	33.61	9.20	7.4
30	9 7.7	50 0	20.5	4.8	50 12.65	50 6.65	32 41.70	0 1.20	0.04	35.06	9.80	8.2
22 SEXTANTIS. $\delta_0 = - 7^\circ 25' 51''.0$												
April 18	11 18.5	45 2	58.3	44.7	47 51.50	48 8.67	25 20.32	-0 9.07	-1.76	+33.19	+7.02	25 50.9
21	10 49.2	45 3	37.3	29.1	48 33.20	48 11.60	25 23.25	0 7.98	1.74	33.84	7.02	52.1
23	10 49.0	45 3	38.0	26.0	48 32.00	48 9.23	25 20.88	0 9.91	1.67	34.45	7.01	51.0
25	10 49.8	45 3	37.1	28.2	48 32.65	48 10.68	25 22.33	0 8.51	1.67	33.61	7.00	51.9
27	10 49.5	45 3	38.9	32.1	48 35.50	48 12.73	25 24.38	0 8.35	1.67	35.45	6.98	52.0
29	11 25.0	45 2	53.7	43.4	47 48.55	48 11.07	25 22.72	0 9.73	1.70	34.23	6.93	53.0
30	10 55.7	45 3	31.0	22.1	48 26.55	48 10.67	25 22.32	0 9.11	1.69	35.06	6.91	51.2
γ LEONIS pr. $\delta_0 = + 20^\circ 29' 17''.1$												
April 18	12 24.6	50 4	12.0	53.1	54 2.55	53 39.07	29 9.28	-0 23.49	-0.90	+33.19	-1.16	29 16.9
22	12 27.3	50 4	9.1	55.2	54 2.15	53 40.52	29 7.83	0 23.54	0.82	34.33	1.51	16.3
23	12 29.4	50 4	8.2	50.4	53 59.30	53 39.88	29 8.47	0 23.78	0.80	34.45	1.60	16.7
25	12 27.0	50 4	8.9	54.9	54 1.90	53 39.41	29 8.94	0 23.30	0.82	33.61	1.77	16.7
26	12 23.3	50 4	14.9	4.2	54 9.55	53 42.14	29 6.21	0 22.40	0.84	35.08	1.86	16.2
27	12 27.9	50 4	8.3	58.8	54 3.55	53 41.79	29 6.56	0 23.24	0.82	35.45	1.95	16.0
29	12 22.4	50 4	17.0	3.9	54 10.45	53 40.95	29 7.40	0 23.72	0.86	34.23	2.11	14.9
30	12 29.8	50 4	8.1	55.2	54 1.65	53 41.12	29 7.23	0 23.50	0.81	35.06	2.19	15.8
μ URSÆ MAJORIS.* $\delta_0 = + 42^\circ 8' 31''.6$												
April 18	14 5.9	15 0	15.0	56.1	15 5.55	14 41.23	8 7.12	-0 0.24	-0.18	+33.19	-7.80	8 32.1
21	14 11.0	15 0	10.0	56.1	15 3.05	14 42.91	8 5.44	0 0.24	0.13	33.84	8.20	30.7
22	14 8.7	15 0	13.1	59.8	15 6.45	14 43.78	8 4.57	0 0.24	0.14	34.33	8.00	30.5
23	14 14.8	15 0	8.1	49.0	14 58.55	14 41.52	8 6.83	0 0.25	+0.06	34.45	8.40	32.7
25	14 11.0	15 0	11.1	54.9	15 3.00	14 42.18	8 6.17	0 0.24	-0.13	33.61	8.70	30.7
26	14 9.4	15 0	10.5	00.1	15 5.30	14 42.63	8 5.72	0 0.23	0.14	35.08	8.80	31.6
27	14 11.5	15 0	10.1	58.1	15 4.10	14 43.38	8 4.97	0 0.24	0.12	35.45	8.90	31.2
29	14 9.6	15 0	13.1	58.9	15 6.00	14 42.84	8 5.51	0 0.25	0.15	34.23	9.20	30.1
30	14 14.8	15 0	8.1	53.9	15 1.00	14 42.61	8 5.74	0 0.24	0.11	35.06	9.30	31.1
γ ANTLÆ. $\delta_0 = - 29^\circ 0' 5''.3$												
April 21	17 28.1	20 1	22.8	14.9	21 18.85	20 50.96	58 2.61	-2 48.82	-2.09	+33.84	+12.16	0 7.5
22	17 24.7	20 1	24.0	15.2	21 19.60	20 47.43	57 59.08	2 51.97	2.02	34.33	12.23	6.5
23	17 36.2	20 1	11.3	58.5	21 4.90	20 45.61	57 57.26	2 53.68	2.14	34.45	12.30	6.3
26	17 30.1	20 1	30.6	24.0	21 27.30	21 0.67	58 12.32	2 43.64	2.07	35.08	12.50	10.4
27	17 35.4	20 1	17.9	12.3	21 15.10	20 54.32	58 5.97	2 49.70	2.12	35.45	12.56	9.8
29	17 32.6	20 1	17.3	7.9	21 12.60	20 47.92	57 59.57	2 53.18	2.10	34.23	12.66	8.0
30	17 34.0	20 1	16.0	8.2	21 12.10	20 48.80	58 0.45	2 51.65	2.11	35.06	12.71	6.4

Date. 1872.	Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
31 LEO MINORIS.* $a_0 = 10^h 20^m 28^s.53$																
April 18	2.2	4.8	7.3	12.5	15.1	17.7	20.4	23.0	28.2	30.6	33.3	17.74	+0.10	+11.49	-0.85	20 28.48
22	3.2	5.8	8.5	13.6	16.0	18.8	21.3	23.8	29.1	31.7	34.3	18.74	-0.01	10.52	0.79	28.46
23	3.5	6.0	8.8	13.8	16.6	19.0	21.7	24.2	29.4	32.0	34.6	19.05	+0.03	10.19	0.78	28.49
25	3.6	6.2	8.7	13.9	16.5	19.2	21.7	24.3	29.5	32.0	34.6	19.11	+0.03	10.05	0.75	28.44
26	4.0	6.6	9.2	14.3	16.9	19.5	22.1	24.6	30.0	32.6	35.0	19.53	-0.04	9.76	0.74	28.51
27	4.0	6.6	9.2	14.5	17.0	19.6	22.1	24.9	30.0	32.6	35.3	19.62	+0.01	9.60	0.72	28.51
29	...	...	...	15.0	17.7	20.3	22.9	25.4	...	...	...	20.26	0.01	8.91	0.69	28.49
30	4.9	7.4	10.0	15.2	17.9	20.4	23.0	25.7	30.9	33.4	36.0	20.44	0.02	8.71	0.67	28.50
a ANTLÆ. $a_0 = 10^h 21^m 17^s.79$																
April 27	...	...	...	3.9	6.3	8.8	11.1	13.7	...	...	...	8.76	-0.04	+ 9.60	-0.46	21 17.86
29	55.1	57.4	59.8	4.5	6.8	9.3	11.8	14.1	18.9	21.3	23.9	9.35	0.04	8.91	0.43	17.79
30	...	...	...	4.4	7.0	9.5	12.0	14.4	...	...	...	9.46	0.05	8.71	0.41	17.71
9 H. DRACONIS.* $a_0 = 10^h 24^m 9^s.04$																
April 17	7.8	16.1	25.1	42.7	51.2	0.2	9.1	17.8	35.2	44.3	53.0	0.23	+0.55	+11.61	-3.57	24 8.82
18	7.7	16.5	25.3	42.8	51.3	0.6	8.7	17.8	35.5	44.0	52.6	0.26	0.59	11.49	3.51	8.83
19	8.1	17.0	25.7	43.6	51.8	0.6	9.1	18.0	35.7	44.4	53.3	0.66	0.65	11.10	3.44	8.97
22	9.0	17.6	26.7	44.0	53.0	1.3	10.0	18.7	36.4	45.1	53.9	1.43	0.02	10.52	3.26	8.71
23	8.9	17.9	26.6	44.1	52.8	1.2	10.2	19.2	36.6	44.9	54.3	1.52	0.20	10.19	3.19	8.72
24	...	...	...	43.9	53.0	1.9	10.5	19.0	...	...	...	1.66	0.25	10.09	3.12	8.88
25	...	...	...	44.0	53.0	1.3	10.7	19.6	...	...	...	1.72	+0.22	10.05	3.04	8.95
26	10.0	18.6	27.3	44.8	53.7	2.5	11.0	19.8	37.4	46.0	55.0	2.37	-0.18	9.76	2.97	8.98
27	9.6	18.5	27.2	44.9	53.4	2.3	10.9	19.5	37.4	45.9	54.6	2.20	+0.10	9.60	2.89	9.01
30	10.3	18.9	27.7	45.1	54.0	2.7	11.5	20.4	37.8	46.1	55.2	2.70	+0.16	8.71	2.68	8.89
ρ LEONIS.* $a_0 = 10^h 26^m 4^s.13$																
April 17	40.7	42.7	44.8	49.0	51.2	53.3	55.4	57.4	1.5	3.6	5.6	53.20	+0.01	+11.61	-0.63	26 4.19
18	40.8	42.8	44.9	49.0	51.2	53.3	55.4	57.5	1.7	3.8	5.8	53.29	0.01	11.49	0.62	4.17
19	41.1	43.2	45.4	49.5	51.7	53.6	55.7	57.8	1.9	4.1	6.3	53.66	+0.01	11.10	0.60	4.17
22	41.8	43.9	46.0	50.1	52.2	54.3	56.4	58.5	2.7	4.8	6.9	54.33	-0.01	10.52	0.57	4.27
23	41.9	44.0	46.1	50.5	52.5	54.6	56.7	58.7	3.0	5.0	7.1	54.55	-0.01	10.19	0.56	4.17
24	42.2	44.2	46.3	50.5	52.6	54.7	56.7	58.8	3.0	5.0	7.2	54.66	+0.00	10.09	0.55	4.20
25	42.2	44.1	46.3	50.6	52.6	54.6	56.7	58.8	2.9	5.2	7.2	54.66	+0.00	10.05	-0.54	4.17
26	42.6	44.6	46.7	50.6	52.9	54.9	57.0	59.2	3.3	5.5	7.5	54.98	-0.02	9.76	+0.53	4.19
27	42.6	44.7	46.8	51.0	53.0	55.1	57.2	59.3	3.6	5.6	7.7	55.15	0.01	9.60	-0.52	4.22
30	43.4	45.5	47.6	51.8	53.8	56.0	58.0	0.2	4.4	6.5	8.5	55.97	0.01	8.71	-0.48	4.19
48 LEONIS. $a_0 = 10^h 28^m 7^s.27$																
April 17	...	...	...	52.1	54.2	56.3	58.4	0.5	...	...	...	56.30	+0.00	+11.61	-0.63	28 7.28
18	44.0	46.0	48.2	52.3	54.3	56.4	58.5	0.7	4.8	6.8	9.0	56.45	0.00	11.49	0.62	7.32
19	44.4	46.4	48.5	52.7	54.6	56.8	58.9	1.0	5.1	7.1	9.2	56.79	+0.01	11.10	0.61	7.29
22	44.9	47.0	49.0	53.3	55.3	57.4	59.4	1.6	5.6	7.8	9.9	57.33	-0.01	10.52	0.57	7.32
23	44.8	47.3	49.5	53.6	55.7	57.7	59.8	2.0	6.0	8.1	10.2	57.70	0.01	10.19	0.56	7.32
24	45.3	47.4	49.5	53.6	55.7	57.8	59.8	2.0	6.6	8.2	10.3	57.84	0.01	10.09	0.55	7.37
25	45.3	47.5	49.5	53.6	55.7	57.8	59.8	2.0	6.0	8.1	10.2	57.77	0.01	10.05	0.54	7.27
26	45.6	47.7	49.8	54.0	56.0	58.1	0.2	2.2	6.4	8.5	10.7	58.11	0.02	9.76	0.53	7.32
27	45.8	47.8	49.9	54.0	56.2	58.2	0.4	2.5	6.6	8.7	10.8	58.26	0.01	9.60	0.52	7.33
30	...	...	...	54.4	57.0	59.1	1.1	3.2	...	...	...	58.96	0.01	8.71	0.48	7.18

Date. 1871-2.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
31 LEONIS MINORIS.* $\delta_0 = + 37^\circ 21' 43''.5$												
April 18	m. 19 55.9	s. 0 1	59.8	38.4	1 49.10	1 26.36	21 21.99	-0 5.14	-0.31	+33.19	-6.90	21 42.8
22	19 56.0	0 1	58.9	44.4	1 51.65	1 27.97	21 20.38	0 5.15	0.29	34.33	6.61	42.7
23	20 2.9	0 1	52.5	32.8	1 42.65	1 25.75	21 22.60	0 5.20	0.23	34.45	6.74	44.9
25	19 53.3	0 2	1.8	44.1	1 52.95	1 26.04	21 22.31	0 5.09	0.32	33.61	6.98	43.5
26	19 52.3	0 2	0.8	48.1	1 54.45	1 26.08	21 22.27	0 4.90	0.34	35.08	7.10	45.0
27	19 59.3	0 1	54.1	42.2	1 48.15	1 26.98	21 21.37	0 5.08	0.27	35.45	7.22	44.2
29	20 5.9	0 1	50.8	33.0	1 41.90	1 26.88	21 21.47	0 5.19	0.21	34.23	7.45	42.8
30	19 58.6	0 1	58.7	41.5	1 50.10	1 27.36	21 20.99	0 5.14	0.27	35.06	7.56	43.1
α ANTLÆ. $\delta_0 = - 30^\circ 25' 0''.1$												
April 27	21 27.4	45 0	16.9	10.2	45 13.55	45 34.60	22 46.25	-3 4.30	-2.16	+35.45	+12.83	25 4.4
29	20 56.1	45 0	46.3	35.9	45 41.10	45 26.05	22 37.70	3 8.09	2.19	34.23	12.95	0.8
30	21 26.2	45 0	15.1	5.1	45 10.10	45 29.00	22 40.65	3 6.47	2.17	35.06	13.01	1.2
9 H. DRACONIS.* $\delta_0 = + 76^\circ 22' 15''.3$												
April 17	22 46.9	0 2	6.0	39.3	1 52.65	1 30.16	21 18.19	+0 39.73	+0.67	+33.27	-15.40	22 16.5
18	22 55.4	0 2	4.2	37.4	1 50.80	1 30.76	21 17.59	0 39.42	0.81	33.19	15.60	15.4
19	22 55.0	0 2	4.0	39.0	1 51.50	1 31.17	21 17.18	0 39.42	0.79	34.37	15.80	16.0
22	22 49.9	0 2	3.1	42.8	1 52.95	1 30.83	21 17.52	0 39.53	0.74	34.33	16.30	15.8
23	22 37.6	0 2	10.2	43.4	1 56.80	1 30.88	21 17.47	0 39.92	0.51	34.45	16.40	15.9
24	24 53.7	0 1	26.1	1.9	1 14.00	1 30.04	21 18.31	0 39.15	1.02	33.71	16.60	15.6
25	24 14.3	0 1	37.9	14.6	1 26.25	1 30.13	21 18.22	0 39.09	1.34	33.61	16.70	15.6
26	22 57.1	0 1	55.3	36.9	1 46.10	1 25.90	21 22.45	0 37.60	0.84	35.08	16.90	19.1
27	22 59.2	0 1	58.9	40.1	1 49.50	1 30.01	21 18.34	0 39.00	0.87	35.45	17.00	16.7
30	22 58.4	0 2	1.0	38.8	1 49.90	1 30.04	21 18.31	0 39.46	0.84	35.06	17.40	16.3
ρ LEONIS.* $\delta_0 = + 9^\circ 57' 51''.6$												
April 17	25 36.7	25 0	22.7	7.0	25 14.85	24 53.52	57 54.83	-0 37.42	-1.28	+33.27	+2.40	57 51.8
18	25 32.9	25 0	28.2	12.7	25 20.45	24 54.08	57 54.27	0 37.13	1.30	33.19	2.30	51.3
19	25 37.9	25 0	23.0	9.1	25 16.05	24 55.63	57 52.72	0 37.11	1.28	34.37	2.20	50.9
22	25 34.8	25 0	24.9	14.1	25 19.50	24 54.30	57 54.05	0 37.23	1.29	34.33	2.10	52.0
23	25 36.4	25 0	26.0	11.0	25 18.50	24 54.97	57 53.38	0 37.60	1.28	34.45	2.00	50.9
24	25 38.1	25 0	23.0	10.3	25 16.65	24 55.19	57 53.16	0 36.87	1.28	33.71	1.90	50.6
25	25 37.8	25 0	23.1	10.9	25 17.00	24 55.16	57 53.19	0 36.81	1.28	33.61	1.90	50.6
26	26 13.3	20 4	39.1	30.9	24 35.00	24 58.65	57 49.70	0 35.42	1.15	35.08	1.80	50.0
27	25 37.7	25 0	23.6	16.1	25 19.85	24 57.36	57 50.99	0 36.73	1.28	35.45	1.70	50.1
30	25 40.4	25 0	21.0	9.3	25 15.15	24 54.86	57 53.49	0 37.16	1.27	35.06	1.60	51.7
48 LEONIS. $\delta_0 = + 7^\circ 36' 43''.0$												
April 17	27 59.5	45 0	4.0	47.5	45 55.75	45 59.91	36 48.44	-0 40.93	-1.34	+33.27	+3.04	36 42.5
18	27 38.5	45 1	30.8	14.6	46 22.70	45 59.29	36 49.06	0 40.62	1.36	33.19	2.99	43.3
19	27 37.5	45 1	33.8	18.9	46 26.35	46 1.24	36 47.11	0 40.59	1.37	34.37	2.94	42.5
22	27 40.5	45 1	28.1	16.8	46 22.45	46 0.47	36 47.88	0 40.73	1.33	34.33	2.78	42.9
23	27 41.8	45 1	28.7	13.1	46 20.90	46 0.23	36 48.12	0 41.13	1.33	34.45	2.73	42.8
24	27 41.1	45 1	29.5	17.4	46 23.45	46 1.86	36 46.49	0 40.33	1.33	33.71	2.68	41.2
25	27 40.5	45 1	29.8	16.1	46 22.95	46 0.45	36 47.90	0 40.25	1.33	33.61	2.62	42.5
26	27 38.6	45 1	34.0	28.1	46 31.05	46 5.69	36 42.66	0 38.74	1.33	35.08	2.56	40.2
27	27 41.3	45 1	29.0	20.1	46 24.55	46 2.44	36 45.91	0 40.17	1.33	35.45	2.51	42.4
30	28 8.3	45 0	57.1	43.8	45 50.45	46 2.54	36 45.81	0 40.65	1.34	35.06	2.35	41.2

Date. 1872.	Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ.	ΔT + m.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
226 B. CEPHEI L. C. $a_0 = 22^h 30^m 1^s.09$																
April 17	...	...	...	29.5	37.7	45.8	54.1	2.2	...	...	...	45.86	-0.52	+11.61	+3.80	m. 30 s. 0.75
19	56.6	5.4	13.7	30.3	38.8	47.0	55.3	3.5	19.8	28.6	36.6	46.87	0.61	11.10	3.65	1.01
21	...	...	...	...	...	...	...	3.0	20.3	28.3	36.3	46.90	0.16	10.80	3.50	1.04
22	...	...	...	30.9	38.9	47.6	55.9	3.6	...	...	...	47.39	0.02	10.52	3.43	1.32
23	58.0	6.0	14.6	31.0	39.4	47.5	56.0	4.0	20.6	29.0	37.0	47.56	0.19	10.19	3.35	0.91
25	58.6	6.7	15.0	31.4	39.6	48.0	56.4	4.6	21.0	29.4	37.5	48.02	0.21	10.05	3.19	1.05
27	59.6	7.4	15.4	32.4	40.5	48.6	56.9	5.3	21.9	30.0	38.5	48.77	0.09	9.60	3.02	1.30
φ HYDRÆ. $a_0 = 10^h 32^m 20^s.78$																
April 17	57.0	59.0	1.2	5.5	7.9	9.8	11.9	14.0	18.4	20.6	22.7	9.82	-0.06	+11.60	-0.61	32 20.75
21	...	...	...	6.3	8.4	10.6	12.7	14.8	...	...	...	10.56	0.03	10.79	0.56	20.76
22	58.0	0.2	2.3	6.6	8.7	11.0	13.0	15.2	19.4	21.6	23.8	10.89	0.02	10.51	0.55	20.83
23	58.4	0.6	2.8	7.0	9.1	11.3	13.4	15.6	19.8	22.0	24.2	11.29	0.03	10.18	0.54	20.90
24	58.4	0.6	2.8	7.0	9.2	11.3	13.5	15.7	19.8	22.2	24.3	11.35	0.04	10.09	0.53	20.87
25	58.5	0.6	2.8	7.0	9.2	11.3	13.5	15.6	19.8	22.0	24.3	11.33	0.04	10.04	0.52	20.81
26	58.8	0.8	3.0	7.3	9.4	11.6	13.7	15.9	20.1	22.2	24.5	11.57	0.01	9.75	0.51	20.80
27	58.9	1.0	3.1	7.5	9.6	11.6	13.8	16.1	20.3	22.4	24.7	11.73	0.03	9.59	0.50	20.79
PI. X. 135. $a_0 = 10^h 36^m 1^s.06$																
April 17	32.3	35.2	38.3	44.4	47.4	50.4	53.3	56.4	2.5	5.4	8.5	50.37	+0.14	+11.60	-1.16	36 0.95
18	32.4	35.4	38.5	44.4	47.4	50.4	53.4	56.5	2.6	5.5	8.6	50.46	0.15	11.48	1.15	0.94
19	32.8	35.8	38.8	44.7	47.8	50.8	53.8	56.8	3.0	5.8	8.8	50.81	0.16	11.09	1.13	0.93
21	33.2	36.2	39.1	45.3	48.2	51.2	54.2	57.2	3.2	6.3	9.2	51.21	0.04	10.79	1.09	0.95
22	33.6	36.4	39.6	45.6	48.5	51.6	54.5	57.6	3.6	6.7	9.5	51.56	0.00	10.51	1.08	0.99
23	33.6	36.5	39.7	45.7	48.7	51.9	54.8	57.8	3.7	6.8	9.7	51.72	0.05	10.18	1.06	0.89
24	33.8	36.8	39.8	45.8	48.7	51.9	54.9	58.0	4.1	6.8	9.8	51.85	0.06	10.09	1.04	0.96
26	34.2	37.2	40.2	46.3	49.3	52.3	55.3	58.4	4.3	7.3	10.4	52.29	0.05	9.75	1.00	1.09
27	34.1	37.3	40.3	46.4	49.3	52.4	55.8	58.3	4.4	7.4	10.4	52.37	0.02	9.59	0.98	1.00
42 LEONIS MINORIS.* $a_0 = 10^h 38^m 44^s.59$																
April 17	19.3	21.6	24.0	28.9	31.3	33.7	36.2	38.5	43.3	45.8	48.3	33.72	+0.07	+11.60	-0.87	38 44.52
18	19.4	21.7	24.2	29.0	31.5	33.9	36.3	38.6	43.5	46.0	48.4	33.86	0.08	11.48	0.86	44.56
19	19.7	22.0	24.6	29.5	31.7	34.2	36.6	39.0	43.8	46.3	48.7	34.19	0.09	11.09	0.85	44.52
21	20.1	22.4	24.9	29.6	32.1	34.5	36.9	39.3	44.3	46.6	49.0	34.52	+0.02	10.79	0.83	44.50
22	20.3	22.8	25.2	30.0	32.5	34.8	37.2	39.6	44.6	46.9	49.2	34.83	-0.01	10.51	0.82	44.51
23	20.6	23.0	25.4	30.3	32.6	35.1	37.5	40.0	44.7	47.0	49.6	35.07	+0.02	10.18	0.80	44.47
24	20.8	23.1	25.6	30.4	32.8	35.2	37.6	40.1	44.8	47.3	49.6	35.21	0.03	10.09	0.79	44.54
25	20.9	23.1	25.8	30.5	33.0	35.3	37.7	40.2	45.0	47.4	49.7	35.33	+0.03	10.04	0.78	44.62
26	21.1	23.5	26.0	30.8	33.2	35.7	38.0	40.5	45.2	47.7	50.1	35.62	-0.04	9.75	0.77	44.56
27	21.5	23.6	25.9	31.0	33.4	35.6	38.1	40.6	45.4	47.8	50.1	35.73	+0.01	9.59	0.75	44.58
b ¹ HYDRÆ. $a_0 = 10^h 40^m 35^s.91$																
April 17	12.0	14.2	16.3	20.6	22.7	25.0	27.1	29.2	33.6	35.7	37.8	24.93	-0.06	+11.60	-0.65	40 35.82
18	12.2	14.4	16.5	20.8	23.0	25.1	27.2	29.4	33.6	35.8	38.0	25.09	0.06	11.48	0.64	35.87
19	12.5	14.6	16.8	21.2	23.3	25.4	27.6	29.8	34.0	36.3	38.4	25.44	0.07	11.09	0.63	35.83
21	12.8	14.9	17.1	21.5	23.5	25.7	28.0	30.1	34.4	36.5	38.6	25.74	0.03	10.79	0.61	35.89
22	13.2	15.4	17.4	21.8	24.0	26.1	28.2	30.3	34.7	36.8	39.0	26.08	0.02	10.51	0.60	35.97
24	13.5	15.6	17.8	22.1	24.3	26.4	28.5	30.8	35.0	37.2	39.3	26.41	0.04	10.09	0.57	35.89
25	13.6	15.7	17.9	22.2	24.3	26.4	28.6	30.8	35.2	37.3	39.5	26.50	0.04	10.04	0.56	35.94
26	13.8	15.8	18.0	22.4	24.7	26.7	28.8	31.0	35.3	37.5	39.6	26.69	0.01	9.75	0.55	35.88
27	14.0	16.1	18.3	22.7	24.8	27.0	29.0	31.3	35.5	37.7	39.8	26.93	0.03	9.59	0.54	35.95

Date. 1872.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean Reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n	Red. to 1872.0.	Mean Declination for 1872.0.							
			E.	G.															
226 B. CEPHEI L. C. $\delta_0 = +104^\circ 25' 59''.7$																			
April 17	29	22.0	55	4	1.5	36.0	58	48.75	58	56.57	23	51.78	+1	50.65	+2.20	+33.27	-18.60	25	59.3
19	29	26.9	55	4	3.0	39.4	58	51.20	58	57.74	23	50.61	1	49.74	2.17	34.37	18.90		58.0
21	30	31.8	55	4	18.9	57.6	59	8.25	58	53.55	24	4.80	1	48.03	2.40	33.84	19.20		59.9
22	29	13.5	55	3	58.9	39.4	58	49.15	59	0.24	23	48.11	1	50.11	2.35	34.33	19.30		55.6
23	28	47.3	55	3	52.9	26.2	58	39.55	58	59.27	23	49.08	1	51.21	2.68	34.45	19.50		57.9
25	(29	18.2)	55	3	47.5	28.1	58	37.80	58	47.55	24	0.80	1	48.82	2.31	33.61	19.70	(65.8)	
27	28	50.9	55	3	45.1	26.0	58	35.55	58	54.49	23	53.86	1	48.59	2.64	35.45	19.90		60.6
ϕ HYDRÆ. $\delta_0 = -16^\circ 12' 45''.6$																			
April 17	31	55.3	35	0	4.5	51.5	34	58.00	34	39.75	11	51.40	-1	36.28	-1.95	+33.27	+9.12	12	47.2
21	32	6.6	30	4	51.5	43.1	34	47.30	34	42.26	11	53.91	1	33.99	1.98	33.84	9.28		46.8
22	31	47.3	35	0	13.9	7.4	35	10.65	34	41.04	11	52.69	1	35.80	1.95	34.33	9.32		46.8
23	31	52.3	35	0	9.3	58.5	35	3.90	34	39.96	11	51.61	1	36.74	1.98	34.45	9.35		46.5
24	31	52.0	35	0	10.9	1.1	35	6.00	34	41.68	11	53.33	1	34.86	1.97	33.71	9.38		47.1
25	31	53.6	35	0	8.1	0.5	35	4.30	34	42.00	11	53.65	1	34.67	1.98	33.61	9.41		47.3
26	31	54.3	35	0	13.1	8.6	35	10.85	34	49.05	12	0.70	1	31.13	1.98	35.08	9.44		49.3
27	31	55.7	35	0	6.9	3.2	35	5.05	34	44.89	11	56.54	1	34.47	2.00	35.45	9.46		48.1
PI. X. 135. $\delta_0 = +46^\circ 52' 32''.6$																			
April 17	35	21.6	30	1	22.5	0.5	31	11.50	30	45.66	52	2.69	+0	4.63	-0.04	+33.27	-7.97	52	32.6
18	35	29.4	30	1	17.2	53.1	31	5.15	30	46.23	52	2.12	0	4.61	+0.09	33.19	8.13		31.9
19	35	21.2	30	1	22.1	1.4	31	11.75	30	45.21	52	3.14	0	4.60	-0.06	34.37	8.29		33.8
21	35	27.7	30	1	14.8	58.0	31	6.40	30	45.33	52	3.02	0	4.53	+0.05	33.84	8.61		32.8
22	35	29.9	30	1	14.5	56.8	31	5.65	30	46.19	52	2.16	0	4.62	0.10	34.33	8.77		32.4
23	35	29.3	30	1	16.1	53.9	31	5.50	30	45.51	52	2.84	0	4.67	0.10	34.45	8.92		33.1
24	35	28.6	30	1	15.9	56.1	31	6.00	30	45.20	52	3.15	0	4.57	0.08	33.71	9.07		32.4
26	35	24.8	30	1	15.1	1.2	31	8.15	30	43.49	52	4.86	0	4.39	0.03	35.08	9.37		35.0
27	35	27.6	30	1	15.5	0.9	31	8.20	30	45.96	52	2.39	0	4.50	+0.06	35.45	9.51		32.9
42 LEONIS MINORIS.* $\delta_0 = +31^\circ 21' 19''.9$																			
April 17	38	20.0	0	2	10.6	49.1	1	59.85	1	44.50	21	3.85	-0	11.50	-0.46	+33.27	-3.60	21	21.6
18	38	14.8	0	2	15.5	56.1	2	5.80	1	44.39	21	3.96	0	11.41	0.51	33.19	3.70		21.5
19	38	11.1	0	2	20.9	1.9	2	11.40	1	45.51	21	2.84	0	11.40	0.55	34.37	3.80		21.5
21	38	14.8	0	2	14.3	59.9	2	7.10	1	45.03	21	3.32	0	11.22	0.51	33.84	4.00		21.4
22	38	18.8	0	2	11.0	55.6	2	3.30	1	45.37	21	2.98	0	11.44	0.44	34.33	4.20		21.2
23	38	19.4	0	2	12.3	53.0	2	2.65	1	45.06	21	3.29	0	11.56	0.44	34.45	4.30		21.4
24	38	15.9	0	2	15.2	58.9	2	7.05	1	45.42	21	2.93	0	11.33	0.46	33.71	4.40		20.4
25	38	14.0	0	2	17.3	0.1	2	8.70	1	44.83	21	3.52	0	11.31	0.48	33.61	4.50		20.8
26	38	13.6	0	2	17.7	4.9	2	11.30	1	46.64	21	1.71	0	10.88	0.48	35.08	4.70		20.7
27	38	21.0	0	2	8.9	56.1	2	2.50	1	46.03	21	2.32	0	11.28	0.43	35.45	4.80		21.3
δ^1 HYDRÆ. $\delta_0 = -16^\circ 37' 22''.0$																			
April 17	40	10.5	55	4	38.2	26.1	59	32.15	59	14.04	36	25.69	-1	37.93	-1.94	+33.27	+9.19	37	23.1
18	40	7.3	55	4	41.3	29.7	59	35.50	59	13.12	36	24.77	1	37.16	1.91	33.19	9.24		21.4
19	40	4.2	55	4	47.1	36.9	59	42.00	59	15.34	36	26.99	1	37.09	1.89	34.37	9.29		22.3
21	40	9.6	55	4	40.3	34.8	59	37.55	59	17.30	36	28.95	1	35.57	1.93	33.84	9.35		23.3
22	40	9.4	55	4	38.8	31.7	59	35.25	59	14.25	36	25.90	1	37.47	1.83	34.33	9.39		21.5
24	40	6.0	55	4	46.6	36.9	59	41.75	59	16.10	36	27.75	1	36.51	1.81	33.71	9.46		22.9
25	40	10.7	55	4	40.1	31.9	59	36.00	59	16.13	36	27.78	1	36.24	1.84	33.61	9.50		22.7
26	40	8.7	55	4	49.2	42.3	59	45.75	59	23.11	36	34.76	1	32.71	1.82	35.08	9.53		24.7
27	40	10.4	55	4	41.9	38.3	59	40.10	59	19.35	36	31.00	1	36.05	1.83	35.45	9.55		23.9

Date.	Right Ascension Wires.											Seconds of transit over Mean Wire.	$n \tan \delta$ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
1872.	1	2	3	4	5	6	7	8	9	10	11					
<i>l</i> LEONIS.* $a_0 = 10^h 42^m 31^s.66$																
April 17	8.2	10.3	12.4	16.5	18.7	20.8	22.9	25.0	29.1	31.2	33.3	20.76	+0.01	+11.60	-0.72	42 31.65
18	8.3	10.3	12.6	16.8	18.8	20.9	23.0	25.1	29.2	31.4	33.5	20.90	0.02	11.48	0.71	31.69
19	8.7	10.8	12.9	16.9	19.3	21.5	23.6	25.6	29.6	31.7	33.8	21.31	0.02	11.09	0.70	31.72
21	9.0	11.0	13.1	17.3	19.4	21.5	23.6	25.6	29.9	32.0	34.2	21.51	+0.00	10.71	0.68	31.62
22	9.3	11.3	13.5	17.6	19.7	21.8	23.9	26.0	30.2	32.4	34.5	21.84	-0.01	10.51	0.67	31.67
24	9.6	11.6	13.8	18.0	20.1	22.2	24.4	26.4	30.7	32.7	34.9	22.22	+0.00	10.09	0.66	31.65
25	9.6	11.8	13.8	18.0	20.2	22.3	24.5	26.5	30.6	32.7	34.8	22.26	+0.00	10.04	0.64	31.66
26	10.0	12.0	14.1	18.3	20.5	22.6	24.6	26.8	30.8	33.0	35.0	22.52	-0.02	9.75	0.63	31.62
27	10.1	12.2	14.4	18.4	20.6	22.6	24.7	26.9	31.0	33.0	35.3	22.67	-0.01	9.59	0.62	31.63
<i>ι</i> CEPHEI L. C.* $a_0 = 22^h 45^m 7^s.64$																
April 18	...	...	...	44.1	49.4	54.0	58.1	4.0	...	...	...	53.92	-0.31	+11.48	+2.47	45 7.56
21	...	...	...	44.8	49.5	54.8	59.4	4.7	...	...	...	54.64	0.09	10.79	2.33	7.67
22	25.3	30.2	35.7	45.1	50.1	55.1	0.1	5.0	14.9	20.2	25.1	55.11	0.01	10.51	2.28	7.89
23	25.5	30.6	35.4	45.5	50.4	55.3	0.4	5.5	15.4	20.1	25.1	55.38	0.11	10.18	2.23	7.68
24	25.5	30.8	35.8	45.7	50.8	55.6	0.5	5.7	15.5	20.4	25.7	55.64	-0.13	10.09	2.18	7.78
26	26.2	31.0	35.8	46.0	50.8	55.9	0.8	6.0	15.9	20.8	25.7	55.90	+0.10	9.75	2.08	7.83
27	26.4	31.3	36.2	46.3	51.4	56.2	1.3	6.2	16.5	21.1	26.1	56.27	-0.05	9.59	2.03	7.84
ω URSÆ MAJORIS. $a_0 = 10^h 46^m 36^s.21$																
April 17	8.4	11.3	14.2	19.8	22.7	25.5	28.6	31.3	36.9	39.9	42.8	25.58	+0.12	+11.60	-1.16	46 36.14
19	8.9	11.8	14.6	20.4	23.2	26.1	28.9	31.7	37.4	40.6	43.4	26.09	0.14	11.09	1.12	36.20
22	9.5	12.4	15.3	21.0	24.0	26.7	29.6	32.5	38.2	41.0	43.9	26.74	0.00	10.51	1.06	36.19
23	9.8	12.7	15.6	21.3	24.2	27.0	29.8	32.7	38.4	41.3	44.2	27.00	0.04	10.18	1.04	36.18
24	10.0	12.7	15.7	21.3	24.2	27.0	30.0	32.7	38.6	41.4	44.3	27.08	0.05	10.09	1.03	36.19
25	9.9	12.8	15.7	21.4	24.3	27.2	30.0	32.8	38.5	41.4	44.3	27.12	+0.05	10.04	1.01	36.20
26	10.3	13.1	16.0	21.7	25.7	27.5	30.4	33.2	38.9	41.7	44.7	27.56	-0.05	9.75	0.99	36.27
27	10.5	13.4	16.2	21.8	24.8	27.6	30.5	33.3	39.1	41.9	44.8	27.63	+0.02	9.59	0.98	36.26
54 LEONIS. $a_0 = 10^h 48^m 40^s.80$																
April 17	16.2	18.5	20.8	25.3	27.6	29.9	32.2	34.5	39.0	41.3	43.5	29.89	+0.05	+11.60	-0.86	48 40.68
18	16.5	18.7	21.0	25.5	27.8	30.0	32.3	34.7	39.2	41.4	43.7	30.07	0.06	11.48	0.84	40.77
19	16.7	19.0	21.3	25.8	28.0	30.4	32.7	34.9	39.4	41.8	44.1	30.37	0.07	11.09	0.83	40.70
23	17.7	20.0	22.3	26.8	29.0	31.4	33.6	35.9	40.4	42.8	44.9	31.35	0.01	10.18	0.79	40.75
24	17.8	20.0	22.2	27.0	29.0	31.4	33.7	36.0	40.6	42.8	45.1	31.42	+0.02	10.09	0.78	40.75
26	18.0	20.3	22.7	27.0	29.5	31.7	34.0	36.4	40.8	43.2	45.5	31.74	-0.03	9.75	0.76	40.70
27	18.3	20.5	22.8	27.3	29.6	31.9	34.1	36.5	41.0	43.3	45.6	31.90	+0.00	9.59	0.74	40.75
PI. X. 199. $a_0 = 10^h 50^m 45^s.25$																
April 17	19.3	21.8	24.4	29.6	32.2	34.7	37.3	39.9	45.0	47.5	50.1	34.71	-0.13	+11.60	-0.79	50 45.39
22	20.5	23.0	25.5	30.6	33.1	35.7	38.4	41.0	45.8	48.5	51.1	35.75	0.03	10.51	0.73	45.50
23	20.6	23.0	25.6	30.9	33.4	36.1	38.7	41.1	46.1	48.8	51.3	35.96	0.07	10.18	0.71	45.36
24	20.8	23.3	26.0	31.0	33.6	36.1	38.6	41.3	46.6	49.0	51.5	36.16	-0.07	10.09	0.70	45.48
26	20.9	23.5	26.0	31.2	33.6	36.3	38.7	41.4	46.5	49.0	51.8	36.26	+0.00	9.75	0.67	45.34
27	21.1	23.7	26.2	31.1	33.9	36.3	39.0	41.7	46.6	49.1	51.8	36.41	-0.05	9.59	0.65	45.30

Date. 1872.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.							
			E.	G.															
♄ LEONIS.* δ ₀ = + 11° 13' 18".1																			
April 17	42	4.0	5	4	58.4	43.0	9	50.70	9	29.08	13	19.27	-0	35.68	-1.21	+33.27	+2.40	13	18.0
18	42	5.6	5	4	57.1	41.9	9	49.50	9	29.81	13	18.54	0	35.41	1.20	33.19	2.30	17.4	
19	42	2.6	10	0	2.4	48.6	9	55.00	9	30.93	13	17.42	0	35.33	1.21	34.37	2.20	17.4	
21	42	4.1	5	4	57.4	48.0	9	52.70	9	30.30	13	18.05	0	34.83	1.21	33.84	2.10	17.9	
22	42	1.9	10	0	1.0	51.7	9	56.35	9	30.73	13	17.62	0	35.52	1.13	34.33	2.00	17.3	
24	42	6.7	10	0	55.8	43.2	9	49.50	9	29.55	13	18.80	0	35.17	1.11	33.71	1.90	18.1	
25	42	6.5	5	4	56.5	45.1	9	50.80	9	30.46	13	17.89	0	35.08	1.11	33.61	1.80	17.1	
26	42	3.4	10	0	2.0	54.9	9	58.45	9	33.87	13	14.48	0	33.78	1.12	35.08	1.70	16.4	
27	42	6.7	5	4	57.8	49.1	9	53.45	9	32.85	13	15.50	0	35.01	1.11	35.45	1.70	16.5	
♄ CEPHEI L. C.* δ ₀ = + 114° 28' 21".9																			
April 18	45	10.8	55	3	9.2	40.9	57	55.05	57	45.90	25	2.45	+2	58.97	+2.34	+33.19	-17.40	28	19.6
21	44	57.4	55	2	55.3	30.4	57	42.85	57	41.32	25	7.03	2	56.10	2.28	33.84	17.80	21.4	
22	44	42.2	55	2	51.9	30.8	57	41.35	57	48.37	24	59.98	2	59.59	2.36	34.33	17.90	18.4	
23	44	37.9	55	2	52.1	24.2	57	38.15	57	47.67	25	0.68	2	61.39	2.39	34.45	18.00	20.9	
24	44	9.7	55	2	33.1	8.1	57	20.60	57	45.58	25	2.77	2	57.78	2.77	33.71	18.10	18.9	
26	44	23.8	55	2	27.1	5.8	57	16.45	57	33.92	25	14.43	2	50.86	2.53	35.08	18.40	24.5	
27	44	19.4	55	2	35.1	13.5	57	24.30	57	44.38	25	3.97	2	56.91	2.61	35.45	18.50	20.4	
♄ URSÆ MAJORIS. δ ₀ = + 43° 52' 14".1																			
April 17	46	2.0	30	1	34.5	13.9	31	24.20	31	1.88	51	46.47	+0	1.54	-0.10	+33.27	-6.65	52	14.5
19	46	2.6	30	1	34.9	16.1	31	25.50	31	3.28	51	45.07	0	1.53	0.10	34.37	6.98	13.9	
22	46	2.7	30	1	34.5	18.0	31	26.25	31	3.55	51	44.80	0	1.53	0.07	34.33	7.47	13.1	
23	46	3.0	30	1	36.1	14.1	31	25.10	31	2.41	51	45.94	0	1.55	0.07	34.45	7.62	14.2	
24	46	2.0	30	1	34.4	15.2	31	24.80	31	1.07	51	47.28	0	1.52	0.08	33.71	7.78	14.6	
25	46	2.7	30	1	33.3	16.1	31	24.70	31	1.63	51	46.72	0	1.50	0.07	33.61	7.93	13.8	
26	46	3.2	30	1	31.7	18.2	31	24.95	31	1.88	51	46.47	0	1.46	0.07	35.08	8.08	14.9	
27	46	3.0	30	1	31.9	18.2	31	25.05	31	1.79	51	46.56	0	1.51	0.08	35.45	8.22	15.2	
54 LEONIS. δ ₀ = + 25° 25' 54".0																			
April 17	48	11.8	55	2	38.9	19.1	57	29.00	57	7.55	25	40.80	-0	18.00	-0.74	+33.27	-1.48	25	53.8
18	48	10.3	55	2	41.1	22.1	57	31.60	57	7.90	25	40.45	0	17.85	0.74	33.19	1.60	53.4	
19	48	10.7	55	2	42.5	23.1	57	32.80	57	9.46	25	38.89	0	17.84	0.74	34.37	1.72	53.0	
23	(48 7.5)	55	2	38.1	20.2	57	29.15	57	0.81	25	47.54	0	18.10	0.74	34.45	2.18	(61.0)		
24	48	28.2	55	2	19.0	3.0	57	11.00	57	7.21	25	41.14	0	17.74	0.62	33.71	2.30	54.2	
26	48	10.8	55	2	40.0	30.0	57	35.00	57	10.24	25	38.11	0	17.04	0.70	35.08	2.52	52.9	
27	48	14.0	55	2	35.0	23.9	57	29.45	57	8.24	25	40.11	0	17.66	0.69	35.45	2.63	54.6	
Pr. X. 199. δ ₀ = - 36° 27' 5".8																			
April 17	50	17.5	45	1	11.3	56.0	46	3.65	45	45.49	22	57.14	-4	49.28	-2.24	+33.27	+12.36	26	63.0
22	50	19.0	45	1	7.9	59.5	46	3.70	45	46.07	22	57.72	4	48.02	2.22	34.33	13.03	60.6	
23	50	13.1	45	1	13.0	0.2	46	6.60	45	42.39	22	54.04	4	50.98	2.15	34.45	13.15	59.6	
24	50	14.2	45	1	17.2	5.3	46	11.25	45	47.92	22	59.57	4	45.03	2.16	33.71	13.27	59.8	
26	50	15.0	45	1	32.8	25.6	46	29.20	46	6.71	23	18.36	4	33.40	2.16	35.08	13.49	65.3	
27	50	15.5	45	1	19.1	11.3	46	15.20	45	53.13	23	4.78	4	43.69	2.17	35.45	13.59	61.6	

Date. 1872.	Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
	1	2	3	4	5	6	7	8	9	10	11						
April 17 18 19 21 22 23 24 26 27	α CRATERIS. $\alpha_0 = 10^h 53^m 32^s.41$																
	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m.	s.
	8.6	10.7	12.8	17.2	19.3	21.5	23.7	25.8	30.2	32.3	34.5	21.51	-0.06	+11.60	-0.70	53	32.35
	8.7	10.9	13.0	17.3	19.5	21.6	23.7	26.1	30.4	32.5	34.6	21.66	0.07	11.48	0.69		32.38
	9.0	11.0	13.3	17.5	19.8	21.9	24.0	26.3	30.7	32.8	35.0	21.94	0.07	11.09	0.68		32.28
	9.4	11.5	13.6	18.0	20.2	22.3	24.3	26.6	30.8	33.0	35.2	22.26	0.03	10.79	0.66		32.36
	9.8	11.8	14.0	18.3	20.5	22.7	24.8	27.0	31.2	33.4	35.6	22.65	0.02	10.51	0.65		32.49
	10.0	12.0	14.3	18.7	20.8	23.0	25.2	27.3	31.5	33.8	36.0	22.96	0.04	10.18	0.64		32.46
	9.9	12.2	14.3	18.7	20.8	22.9	25.1	27.4	31.7	33.8	36.0	22.98	0.04	10.09	0.63		32.40
10.2	12.3	14.6	18.9	21.0	23.2	25.3	27.5	31.8	34.0	36.2	23.18	0.01	9.75	0.61		32.31	
10.4	12.6	14.7	19.1	21.2	23.5	25.6	27.7	32.0	34.2	36.4	23.40	0.03	9.59	0.60		32.36	
April 17 18 19 21 22 23 24 25 26 27	α URSÆ MAJORIS.* $\alpha_0 = 10^h 55^m 48^s.56$																
	11.8	16.5	20.7	29.7	34.2	38.6	43.1	47.6	56.5	0.9	5.5	38.65	+0.26	+11.60	-2.03	55	48.48
	12.1	16.4	20.8	29.9	34.3	38.7	43.2	47.6	56.6	1.0	5.4	38.73	0.27	11.48	2.01		48.47
	12.5	16.7	21.3	30.2	34.5	39.0	43.8	48.0	57.0	1.5	6.0	39.14	0.30	11.09	1.97		48.56
	...	...	...	30.7	35.1	39.5	44.0	48.5	...	...	...	39.56	0.08	10.79	1.92		48.51
	13.0	17.4	21.9	30.9	35.4	39.9	44.3	48.7	57.8	2.0	6.6	39.81	0.01	10.51	1.89		48.44
	13.2	17.7	22.2	31.0	35.5	40.0	44.5	48.9	58.0	2.3	6.8	40.01	0.09	10.18	1.86		48.42
	13.4	17.9	22.2	31.2	35.6	40.0	44.7	49.1	58.0	2.3	6.8	40.11	0.11	10.09	1.83		48.48
	...	...	...	31.2	35.8	40.1	44.5	49.0	...	...	...	40.12	+0.10	10.04	1.80		48.46
13.8	18.3	22.9	31.6	36.2	40.7	45.0	49.6	58.2	3.0	7.5	40.62	-0.09	9.75	1.77		48.51	
14.0	18.3	22.7	31.6	36.3	40.6	45.0	49.4	58.3	2.7	7.3	40.56	+0.04	9.59	1.74		48.45	
April 18 22 23 24 25 26 27	χ LEONIS.* $\alpha_0 = 10^h 58^m 24^s.80$																
	1.6	3.7	5.8	9.9	12.0	14.0	16.2	18.2	22.4	24.5	26.6	14.08	+0.01	+11.48	-0.74	58	24.83
	2.6	4.7	6.7	10.9	13.0	15.0	17.1	19.2	23.4	25.4	27.6	15.05	-0.01	10.51	0.71		24.84
	2.9	5.0	7.0	11.3	13.2	15.3	17.4	19.6	23.7	25.7	27.9	15.36	0.01	10.18	0.70		24.83
	2.9	5.0	7.1	11.3	13.3	15.4	17.5	19.6	23.7	25.8	28.0	15.42	0.01	10.09	0.70		24.80
	3.0	5.0	7.1	11.2	13.3	15.4	17.5	19.6	23.8	25.9	27.9	15.43	0.01	10.04	0.69		24.77
	3.2	5.3	7.4	11.6	13.7	15.8	17.9	19.9	24.0	26.2	28.3	15.75	0.02	9.75	0.68		24.80
	3.4	5.5	7.6	11.7	13.8	15.9	18.0	20.0	24.2	26.3	28.4	15.89	0.01	9.59	0.67		24.80
April 17 18 19 21 22 23 24 25 26 27	p^4 LEONIS. $\alpha_0 = 11^h 0^m 22^s.37$																
	59.2	1.3	3.3	7.5	9.5	11.5	13.6	15.6	19.8	21.8	23.9	11.54	-0.01	+11.60	-0.75	0	22.38
	59.5	1.5	3.5	7.6	9.7	11.8	13.8	15.8	20.0	22.0	24.1	11.75	0.01	11.48	0.74		22.48
	59.7	1.7	3.8	8.0	10.0	12.1	14.1	16.1	20.3	22.4	24.5	12.06	0.01	11.09	0.73		22.41
	0.1	2.0	4.2	8.3	10.4	12.4	14.4	16.6	20.6	22.7	24.7	12.36	0.01	10.79	0.71		22.43
	0.3	2.3	4.4	8.6	10.8	12.8	14.8	16.9	21.0	23.0	25.0	12.72	0.01	10.51	0.70		22.52
	0.7	2.7	4.8	8.9	11.0	13.0	15.0	17.1	21.2	23.2	25.4	13.00	0.01	10.18	0.69		22.48
	0.7	2.8	4.9	9.0	11.0	13.0	15.2	17.3	21.4	23.4	25.5	13.11	0.01	10.09	0.69		22.50
	0.7	2.8	4.9	9.0	11.0	13.1	15.2	17.2	21.4	23.4	25.5	13.11	0.01	10.04	0.68		22.46
	1.0	3.0	5.0	9.2	11.3	13.3	15.4	17.5	21.6	23.6	25.7	13.33	0.02	9.75	0.67		22.39
1.1	3.2	5.2	9.4	11.5	13.5	15.6	17.7	21.7	23.8	25.9	13.51	0.01	9.59	0.66		22.43	
April 17 18 19 21 22 23 24 25 26 27	ψ URSÆ MAJORIS.* $\alpha_0 = 11^h 2^m 27^s.49$																
	59.6	2.4	5.3	11.2	14.1	17.0	19.9	22.9	28.8	31.7	34.6	17.05	+0.13	+11.60	-1.29	2	27.49
	59.7	2.6	5.5	11.4	14.1	17.1	20.0	23.0	28.9	31.8	34.6	17.15	0.14	11.48	1.28		27.49
	0.1	2.8	5.7	11.7	14.6	17.4	20.4	23.3	29.0	32.1	35.2	17.48	0.15	11.09	1.26		27.46
	0.6	3.3	6.2	12.1	15.0	18.0	20.7	23.7	29.4	32.5	35.4	17.90	+0.04	10.79	1.23		27.50
	0.7	3.7	6.7	12.5	15.3	18.3	21.2	24.0	30.0	32.8	35.7	18.26	-0.00	10.51	1.22		27.55
	0.6	3.7	6.7	12.6	15.6	18.5	21.3	24.3	30.2	33.1	35.9	18.41	+0.04	10.18	1.20		27.43
	1.0	4.0	6.9	12.7	15.6	18.6	21.4	24.6	30.1	33.0	35.9	18.53	0.06	10.09	1.19		27.49
	1.0	4.0	7.0	12.8	15.6	18.7	21.4	24.7	30.3	33.1	36.1	18.58	+0.05	10.04	1.18		27.49
	1.5	4.3	7.2	13.0	16.0	19.0	21.9	24.8	30.4	33.6	36.5	18.93	-0.05	9.75	1.17		27.46
	1.6	4.3	7.2	13.1	16.0	19.0	21.9	24.9	30.7	33.7	36.7	19.01	+0.02	9.59	1.15		27.47

Date. 1872.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.							
			E.	G.															
<i>a</i> CRATERIS. $\delta_0 = -17^\circ 37' 3''.8$																			
April 17	m. 53	s. 2.2	' 55	' 4	" 20.0	" 8.4	' 59	" 14.20	' 58	" 50.06	' 36	" 1.71	-1	41.94	-1.96	+33.27	+9.29	' 37	" 3.0
18	53	4.8	55	4	15.9	7.6	59	11.75	58	50.61	36	2.26	1	41.14	1.97	33.19	9.35		2.8
19	53	2.3	55	4	24.0	12.9	59	18.45	58	53.93	36	5.58	1	41.05	1.95	34.37	9.40		4.8
21	53	8.7	55	4	15.5	9.7	59	12.60	58	55.59	36	7.24	1	39.47	1.99	33.84	9.50		5.4
22	53	3.0	55	4	21.3	14.5	59	17.90	58	53.38	36	5.03	1	41.51	1.86	34.33	9.55		4.5
23	53	2.7	55	4	22.8	11.2	59	17.00	58	51.61	36	3.26	1	42.53	1.86	34.45	9.59		3.6
24	53	5.0	55	4	19.9	10.8	59	15.45	58	53.06	36	4.71	1	40.48	1.87	33.71	9.64		3.7
26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
27	53	5.9	55	4	21.9	17.1	59	19.50	58	57.61	36	9.26	1	39.96	1.88	35.45	9.75		5.9
<i>a</i> URSÆ MAJORIS.* $\delta_0 = +62^\circ 26' 28''.5$																			
April 17	55	5.6	55	2	37.5	12.8	57	25.18	57	5.14	25	43.21	+0	21.58	+0.58	+33.27	-10.80	26	27.8
18	55	7.2	55	2	36.7	11.5	57	24.10	57	4.97	25	43.38	0	21.41	0.62	33.19	11.00		27.6
19	55	4.9	55	2	36.8	16.0	57	26.40	57	5.63	25	42.72	0	21.39	0.57	34.37	11.20		27.8
21	55	29.3	55	2	19.6	1.2	57	10.40	57	4.14	25	44.21	0	21.06	0.81	33.84	11.50		28.4
22	55	5.7	55	2	34.0	15.1	57	24.55	57	3.84	25	44.51	0	21.49	0.62	34.33	11.70		29.2
23	55	8.9	55	2	36.1	11.3	57	23.70	57	4.81	25	43.54	0	21.71	0.67	34.45	11.90		28.5
24	55	5.9	55	2	34.4	13.2	57	23.80	57	3.03	25	45.32	0	21.27	0.62	33.71	12.10		28.8
25	55	30.1	55	2	19.1	59.1	57	9.10	57	3.03	25	45.32	0	21.19	0.86	33.61	12.20		28.8
26	55	6.6	55	2	31.2	14.1	57	22.65	57	2.00	25	46.35	0	20.44	0.62	35.08	12.40		30.1
27	55	6.3	55	2	33.2	17.1	57	25.15	57	4.32	25	44.03	0	21.15	0.62	35.45	12.60		28.6
χ LEONIS.* $\delta_0 = +8^\circ 1' 37''.8$																			
April 18	57	55.5	20	1	37.2	21.6	21	29.40	21	5.23	1	43.12	-0	40.06	-1.35	+33.19	+3.40	1	38.3
22	57	55.6	20	1	35.9	25.0	21	30.45	21	5.11	1	43.24	0	40.23	1.32	34.33	3.20		39.2
23	57	58.8	20	1	34.1	19.0	21	26.55	21	4.98	1	43.37	0	40.63	1.31	34.45	3.10		39.0
24	58	0.0	20	1	31.9	18.9	21	25.40	21	5.39	1	42.96	0	39.82	1.30	33.71	3.00		38.5
25	57	55.1	20	1	38.1	26.5	21	32.30	21	5.92	1	42.43	0	39.67	1.31	33.61	3.00		38.1
26	57	58.0	20	1	36.1	27.9	21	32.00	21	8.87	1	39.48	0	38.25	1.30	35.08	2.90		37.9
27	57	59.3	20	1	32.9	23.5	21	28.20	21	6.63	1	41.72	0	39.60	1.30	35.45	2.80		39.1
<i>p</i> ⁴ LEONIS. $\delta_0 = +2^\circ 38' 59''.5$																			
April 17	59	49.6	40	4	13.4	56.9	44	5.15	43	36.44	39	11.91	-0	49.10	-1.49	+33.27	+4.81	38	59.4
18	59	47.6	40	4	18.0	1.0	44	9.50	43	37.77	39	10.58	0	48.71	1.50	33.19	4.78		58.3
19	59	51.7	40	4	13.2	59.3	44	6.25	43	39.51	39	8.84	0	48.67	1.49	34.37	4.75		57.8
21	00	7.6	40	3	49.1	39.9	43	44.50	43	38.21	39	10.14	0	47.91	1.48	33.84	4.68		59.3
22	59	56.4	40	4	4.1	53.2	43	58.65	43	37.28	39	11.07	0	48.90	1.40	34.33	4.64		59.7
23	59	54.3	40	4	8.0	52.4	44	0.20	43	35.68	39	12.67	0	49.39	1.40	34.45	4.61		60.9
24	59	57.3	40	4	4.1	51.4	43	57.75	43	37.04	39	11.31	0	48.41	1.40	33.71	4.57		59.8
25	59	57.2	40	3	5.0	53.0	43	59.00	43	38.16	39	10.19	0	48.21	1.40	33.61	4.54		58.7
26	59	56.8	40	4	7.9	59.9	44	3.90	43	42.27	39	6.08	0	46.50	1.40	35.08	4.50		57.8
27	59	58.1	40	3	4.5	55.1	43	59.80	43	39.61	39	8.74	0	48.14	1.40	35.45	4.46		59.1
ψ URSÆ MAJORIS.* $\delta_0 = +45^\circ 11' 31''.9$																			
April 17	1	52.5	10	2	19.6	58.5	12	9.05	11	46.39	11	1.96	+0	2.90	-0.03	+33.27	-6.20	11	31.9
18	1	52.7	10	2	16.0	59.0	12	7.50	11	44.84	11	3.51	0	2.88	0.03	33.19	6.40		33.1
19	1	57.0	10	2	15.0	56.9	12	5.95	11	46.99	11	1.36	0	2.88	+0.02	34.37	6.60		32.0
21	1	52.2	10	2	17.1	2.9	12	10.00	11	46.24	11	2.11	0	2.83	-0.04	33.84	6.90		31.8
22	1	55.5	10	2	16.3	1.0	12	8.65	11	47.57	11	0.78	0	2.89	+0.02	34.33	7.10		30.9
23	1	54.3	10	2	18.1	57.5	12	7.80	11	45.52	11	2.83	0	2.92	0.04	34.45	7.20		33.0
24	1	55.5	10	2	15.2	57.8	12	6.50	11	45.23	11	3.12	0	2.86	0.04	33.71	7.40		32.3
25	1	54.0	10	2	16.2	59.5	12	7.85	11	45.10	11	3.25	0	2.85	0.01	33.61	7.50		32.2
26	1	52.5	10	2	15.3	3.9	12	9.60	11	45.18	11	3.17	0	2.75	-0.10	35.08	7.70		33.2
27	1	59.2	10	2	11.6	58.9	12	5.25	11	46.94	11	1.41	0	2.84	+0.07	35.45	7.90		31.9

Date. 1872.	Right Ascension Wires.											Seconds of Transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
	1	2	3	4	5	6	7	8	9	10	11						
April 18 19 21 22 23 24 25 27	β CRATERIS. $a_0 = 11^h 5^m 22^s.00$																
	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	s.	m.	s.
	58.0	0.2	2.3	6.8	9.0	11.2	13.4	15.7	20.0	22.4	24.6	11.24	-0.08	+11.48	-0.76	5	21.88
	58.2	0.4	2.7	7.0	9.3	11.5	13.8	16.0	20.5	22.7	24.9	11.55	0.09	11.09	0.75		21.80
	58.6	0.8	2.8	7.4	9.7	11.9	14.1	16.4	20.7	23.0	25.1	11.86	0.04	10.79	0.73		21.88
	59.0	1.1	3.4	7.8	9.8	12.2	14.5	16.7	21.0	23.4	25.6	12.23	0.03	10.51	0.72		21.99
	59.2	1.3	3.6	8.1	10.4	12.6	14.8	16.9	21.5	23.6	25.9	12.54	0.04	10.18	0.71		21.97
	59.2	1.4	3.7	8.2	10.3	12.5	14.8	17.0	21.6	23.8	25.9	12.58	0.05	10.09	0.70		21.92
	59.3	1.5	3.8	8.2	10.4	12.6	14.8	17.0	21.4	23.7	25.9	12.60	0.05	10.04	0.69		21.90
59.6	2.0	4.2	8.5	10.8	13.0	15.3	17.5	21.8	24.0	26.4	13.01	0.03	9.59	0.67		21.90	
April 18 19 21 22 23 24 25 26 27	δ LEONIS.* $a_0 = 11^h 7^m 17^s.87$																
	54.0	56.2	58.4	2.8	5.0	7.2	9.4	11.7	16.0	18.3	20.5	7.23	+0.04	+11.48	-0.88	7	17.87
	54.4	56.6	58.8	2.0	...	...	...	...	16.4	18.7	21.0	7.62	0.05	11.09	0.87		17.89
	54.7	56.9	59.1	3.6	5.7	7.8	10.1	12.4	16.8	19.0	21.2	7.94	+0.01	10.79	0.85		17.89
	55.0	57.2	59.3	3.8	6.0	8.3	10.6	12.7	17.1	19.3	21.5	8.25	-0.01	10.51	0.84		17.91
	55.3	57.6	59.6	4.1	6.3	8.6	10.7	13.0	17.4	19.6	21.7	8.54	+0.01	10.18	0.83		17.90
	55.3	57.5	59.7	4.1	6.3	8.6	10.8	13.0	17.4	19.6	21.9	8.56	0.01	10.09	0.83		17.83
	55.4	57.6	59.8	4.3	6.5	8.6	11.0	13.1	17.4	19.7	21.9	8.66	+0.01	10.04	0.82		17.89
55.6	57.9	0.1	4.6	6.7	9.0	11.1	13.4	17.8	21.0	22.3	9.05	-0.03	9.75	0.81		17.96	
55.8	58.0	0.3	4.6	6.8	9.1	11.3	13.5	18.0	21.1	22.3	9.16	-0.00	9.59	0.80		17.95	
April 18 19 21 22 23 24 25 26 27	η LEONIS. $a_0 = 11^h 9^m 10^s.04$																
	46.7	48.8	50.9	55.1	57.3	59.4	1.6	3.7	7.8	10.0	12.1	59.40	+0.02	+11.48	-0.83	9	10.07
	47.1	49.1	51.3	55.5	57.7	59.7	1.8	4.0	8.2	10.3	12.5	59.75	+0.03	11.09	0.83		10.04
	47.3	49.5	51.6	55.8	57.8	0.0	2.0	4.2	8.5	10.7	12.7	60.01	-0.00	10.79	0.81		9.99
	47.7	49.8	52.0	56.2	58.4	0.5	2.4	4.7	9.0	11.0	13.0	0.43	-0.01	10.51	0.80		10.13
	...	...	...	56.4	58.6	0.6	2.8	4.8	...	...	...	0.64	+0.00	10.18	0.79		10.03
	48.0	50.1	52.2	56.6	58.6	0.7	2.8	4.8	9.2	11.4	13.5	0.72	0.00	10.09	0.78		10.03
	48.9	50.1	52.3	56.5	58.7	0.7	2.9	5.0	9.3	11.4	13.5	0.85	+0.00	10.04	0.77		10.12
48.3	50.4	52.6	56.7	59.0	1.0	3.2	5.1	9.6	11.7	13.8	1.04	-0.02	9.75	0.77		10.00	
48.5	50.6	52.7	56.9	59.0	1.2	3.4	5.5	9.6	11.8	14.0	1.20	-0.01	9.59	0.76		10.02	
April 17 18 19 21 22 23 24 25 26 27	ξ URSÆ MAJORIS, med.* $a_0 = 11^h 11^m 20^s.89$																
	55.6	58.0	0.5	5.4	8.0	10.4	12.8	15.2	20.0	22.5	25.0	10.31	+0.07	+11.60	-1.04	11	20.94
	55.9	58.3	0.8	5.7	8.1	10.5	12.8	15.4	20.3	22.7	25.1	10.51	0.08	11.48	1.03		21.04
	56.3	58.7	1.1	5.9	8.4	10.8	13.1	15.7	20.5	23.0	25.4	10.81	0.09	11.09	1.02		20.97
	56.6	59.0	1.5	6.4	8.8	11.2	13.7	16.1	21.0	23.4	25.9	11.24	+0.02	10.79	1.00		21.05
	57.0	59.2	1.7	6.7	9.0	11.6	14.0	16.4	21.3	23.8	26.1	11.53	-0.01	10.51	0.99		21.04
	57.1	59.7	2.1	7.0	9.3	11.9	14.3	16.7	21.5	24.0	26.5	11.83	+0.02	10.18	0.98		21.05
	57.2	59.7	2.2	7.0	9.3	11.7	14.3	16.7	21.6	24.2	26.5	11.85	0.03	10.09	0.97		21.00
	57.3	59.7	2.1	7.0	9.5	11.9	14.4	16.8	21.7	24.1	26.6	11.92	+0.02	10.04	0.96		21.02
	57.7	0.1	2.6	7.4	9.8	12.3	14.7	17.1	22.0	24.5	27.0	12.29	-0.04	9.75	0.95		21.05
	57.7	0.1	3.0	7.4	10.0	12.4	14.7	17.0	22.0	24.6	26.9	12.36	+0.01	9.59	0.94		21.02
April 21 22 24 26	δ CRATERIS. $a_0 = 11^h 12^m 56^s.57$																
	33.7	36.0	38.0	42.3	44.4	46.6	48.6	50.7	55.0	57.1	59.3	46.52	-0.03	+10.79	-0.74	12	56.54
	34.2	36.3	38.4	42.6	44.7	46.8	48.9	51.2	55.3	57.6	59.6	46.87	0.02	10.51	0.73		56.63
	34.3	36.6	38.8	42.9	45.1	47.3	49.3	51.5	55.7	57.9	60.0	47.22	0.03	10.09	0.72		56.56
34.7	36.8	38.9	43.1	45.2	47.3	49.6	51.7	56.0	58.1	0.2	47.42	0.01	9.75	0.70		56.46	

Date. 1872.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean Reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
β CRATERIS. $\delta_0 = -22^\circ 7' 38''.7$												
April 18	m. 4 50.9	s. 25 4	38.8	27.0	29 32.90	29 8.22	6 19.87	-2 2.35	-2.02	+33.19	+10.08	7 41.0
19	4 50.5	25 4	41.3	31.8	29 36.55	29 11.01	6 22.66	2 2.22	2.02	34.37	10.16	42.4
21	4 55.8	25 4	33.7	28.9	29 31.30	29 11.72	6 23.37	2 0.29	2.04	33.84	10.31	41.5
22	4 52.7	25 4	34.0	27.2	29 30.60	29 6.89	6 18.54	2 2.84	1.94	34.33	10.38	38.6
23	4 52.9	25 4	35.6	25.9	29 30.75	29 6.92	6 18.57	2 4.09	1.94	34.45	10.45	39.7
24	4 49.0	25 4	42.0	34.9	29 38.45	29 9.75	6 21.40	2 1.58	1.89	33.71	10.51	40.6
25	4 52.8	25 4	39.1	31.2	29 35.15	29 11.08	6 22.73	2 1.05	1.94	33.61	10.58	41.5
27	4 53.8	25 4	36.9	33.9	29 35.40	29 12.06	6 23.71	2 0.87	1.95	35.45	10.71	40.4
δ LEONIS.* $\delta_0 = +21^\circ 13' 28''.0$												
April 18	6 48.3	10 0	2.8	43.3	9 53.05	9 29.93	13 18.42	-0 22.71	-0.86	+33.19	+0.20	13 28.2
19	6 48.2	10 0	4.8	46.1	9 55.45	9 31.71	13 16.64	0 22.69	0.86	34.37	0.10	27.6
21	6 47.7	10 0	2.0	48.8	9 55.40	9 30.69	13 17.66	0 22.32	0.87	33.84	-0.10	28.2
22	6 53.4	5 4	56.0	42.5	9 49.25	9 31.14	13 17.21	0 22.80	0.75	34.33	0.20	27.8
23	6 52.5	5 4	0.2	40.1	9 50.15	9 30.58	13 17.77	0 23.03	0.75	34.45	0.30	28.1
24	6 48.5	10 0	3.7	47.5	9 55.60	9 31.01	13 17.34	0 22.56	0.78	33.71	0.40	27.3
25	6 51.3	5 4	59.0	44.9	9 51.95	9 30.67	13 17.68	0 22.47	0.76	33.61	0.50	27.6
26	6 50.0	10 0	0.6	53.3	9 56.95	9 33.70	13 14.65	0 21.68	0.77	35.08	0.60	26.7
27	6 52.0	5 4	58.9	46.2	9 52.55	9 31.50	13 16.85	0 22.44	0.76	35.45	0.70	28.4
η LEONIS. $\delta_0 = +14^\circ 0' 19''.3$												
April 18	8 41.6	20 3	4.2	48.1	22 56.15	22 33.49	0 14.86	-0 31.71	-1.13	+33.19	+2.10	0 17.3
19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
21	8 42.7	20 3	1.0	51.3	22 56.15	22 34.13	0 14.22	0 31.18	1.13	33.84	1.86	17.6
22	8 41.5	20 3	1.5	51.1	22 56.30	22 32.24	0 16.11	0 31.84	1.08	34.33	1.77	19.3
23	9 3.1	20 2	37.8	22.1	22 29.95	22 33.12	0 15.23	0 32.16	1.03	34.45	1.69	18.2
24	8 43.8	20 3	0.9	49.2	22 55.05	22 33.53	0 14.82	0 31.52	1.07	33.71	1.61	17.5
25	8 48.6	20 2	53.9	41.9	22 47.90	22 32.37	0 15.98	0 31.37	1.05	33.61	1.53	18.7
26	8 43.0	20 3	3.2	56.5	22 59.85	22 36.93	0 11.42	0 30.28	1.08	35.08	1.44	16.6
27	8 44.0	20 3	1.5	52.9	22 57.20	22 35.28	0 13.07	0 31.32	1.08	35.45	1.36	17.5
ξ URSÆ MAJORIS, med.* $\delta_0 = +32^\circ 14' 56''.4$												
April 17	11 5.5	5 3	26.5	8.0	8 17.25	8 11.92	14 36.43	-0 10.58	-0.39	+33.27	-2.30	14 56.4
18	10 50.9	5 3	44.7	24.9	8 34.80	8 13.16	14 35.19	0 10.49	0.46	33.19	2.50	54.9
19	10 48.8	5 3	47.0	28.9	8 37.95	8 13.54	14 34.81	0 10.48	0.48	34.37	2.60	55.6
21	10 51.5	5 3	42.1	29.0	8 35.55	8 13.69	14 34.66	0 10.30	0.46	33.84	2.90	54.8
22	10 55.1	5 3	38.9	24.7	8 31.80	8 13.60	14 34.75	0 10.54	0.37	34.33	3.00	55.2
23	10 50.6	5 3	45.2	26.4	8 35.80	8 12.28	14 36.07	0 10.64	0.41	34.45	3.10	56.4
24	10 49.3	5 3	45.0	29.8	8 37.40	8 12.32	14 36.03	0 10.42	0.43	33.71	3.30	55.6
25	10 52.6	5 3	40.9	26.5	8 33.70	8 12.29	14 36.06	0 10.38	0.39	33.61	3.40	55.5
26	10 51.4	5 3	42.9	31.5	8 37.20	8 14.01	14 34.34	0 10.02	0.40	35.08	3.60	55.4
27	10 52.9	5 3	41.1	29.5	8 35.30	8 13.66	14 34.69	0 10.36	0.39	35.45	3.70	55.7
δ CRATERIS. $\delta_0 = -14^\circ 5' 10''.8$												
April 21	12 28.3	25 2	40.9	35.3	27 38.10	27 14.94	4 26.58	-1 26.83	-1.90	+33.84	+8.68	5 12.8
22	12 27.7	25 2	39.2	31.5	27 35.35	27 10.91	4 22.56	1 28.69	1.84	34.33	8.71	10.0
24	12 29.9	25 2	39.1	30.1	27 34.60	27 12.58	4 24.23	1 27.88	1.85	33.71	8.78	11.5
26	(12 31.9)	25 2	12.1	37.1	26 54.60	27 14.33	4 25.98	1 24.36	1.88	35.08	8.85	(8.3)

Date. 1872.	Right Ascension Wires.											Seconds of transit over Mean Wire.	$n \tan \delta$ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
σ LEONIS.* $a_0 = 11^h 14^m 32^s.11$																
April 23	10.2	12.2	14.5	18.5	20.7	22.7	24.8	26.9	31.0	33.0	35.2	22.70	-0.01	+10.18	-0.78	14 32.09
25	10.4	12.4	14.6	18.7	20.7	22.8	24.9	26.9	31.1	33.2	35.2	22.81	0.01	10.04	0.76	32.08
26	10.7	12.7	14.8	19.0	21.0	23.0	25.1	27.3	31.4	33.5	35.6	23.10	0.02	9.75	0.75	32.08
27	10.9	13.0	15.0	19.0	21.1	23.2	25.3	27.4	31.5	33.6	35.7	23.24	0.01	9.59	0.74	32.08
λ CRATERIS. $a_0 = 11^h 17^m 1^s.36$																
April 21	38.2	40.4	42.4	46.9	49.0	51.2	53.4	55.5	59.9	2.0	4.3	51.20	-0.03	+10.79	-0.76	17 1.20
22	38.6	40.7	42.9	47.2	49.5	51.6	53.7	55.9	0.2	2.5	4.6	51.58	0.02	10.51	0.76	1.31
23	39.0	41.0	43.1	47.6	49.8	51.9	54.0	56.2	0.5	2.7	4.9	51.88	0.04	10.18	0.75	1.27
24	39.0	41.0	43.1	47.6	49.8	51.9	54.1	56.2	0.5	2.7	4.9	51.89	0.04	10.09	0.74	1.20
25	38.9	41.1	43.3	47.6	49.8	52.0	54.1	56.3	0.6	2.8	5.0	51.95	0.04	10.04	0.73	1.22
26	39.1	41.3	43.4	47.7	50.0	52.1	54.2	56.6	0.8	3.0	5.1	52.12	0.01	9.75	0.72	1.14
27	39.1	41.6	43.6	48.1	50.1	52.2	54.5	57.7	1.0	3.2	5.4	52.41	0.03	9.59	0.71	1.26
γ CRATERIS. $a_0 = 11^h 18^m 29^s.33$																
April 21	6.4	8.5	10.8	15.0	17.1	19.3	21.5	23.7	28.0	30.1	32.2	19.33	-0.03	+10.79	-0.77	18 29.32
22	6.8	8.9	11.1	15.4	17.5	19.7	21.8	24.0	28.3	30.5	32.6	19.69	0.02	10.51	0.76	29.42
23	7.1	9.3	11.4	15.7	17.8	20.0	22.3	24.3	28.6	30.8	32.9	20.02	0.04	10.18	0.75	29.41
24	7.1	9.4	11.4	15.7	18.0	20.1	22.3	24.4	28.6	30.9	33.0	20.08	0.04	10.09	0.74	29.39
25	7.1	9.3	11.4	15.8	17.9	20.1	22.3	24.4	28.8	30.8	32.9	20.07	0.04	10.04	0.73	29.34
26	7.4	9.5	11.7	15.9	18.1	20.2	22.4	24.6	28.9	31.0	33.2	20.26	0.01	9.75	0.72	29.28
τ LEONIS. $a_0 = 11^h 21^m 21^s.27$																
April 21	59.0	1.0	3.0	7.1	9.2	11.3	13.3	15.4	19.5	21.6	23.6	11.27	-0.01	+10.79	-0.80	21 21.25
22	59.4	1.3	3.4	7.4	9.6	11.7	13.7	15.8	19.9	21.9	24.0	11.65	0.01	10.51	0.80	21.35
23	59.5	1.6	3.6	7.7	9.9	12.0	14.0	16.1	20.1	22.2	24.3	11.91	0.01	10.18	0.79	21.29
24	59.6	1.6	3.7	7.8	9.9	12.0	14.1	16.2	20.3	22.3	24.4	11.99	0.01	10.09	0.78	21.29
25	59.7	1.7	3.7	7.9	10.0	12.0	14.0	16.1	20.3	22.3	24.4	12.01	0.01	10.04	0.77	21.27
26	59.9	1.9	4.0	8.1	10.2	12.3	14.3	16.3	20.5	22.6	24.7	12.25	0.02	9.75	0.76	21.22
λ DRACONIS.* $a_0 = 11^h 23^m 46^s.67$																
April 21	2.6	8.6	14.5	26.7	32.8	39.0	44.8	50.8	3.0	9.0	14.9	38.79	+0.12	+10.79	-3.06	23 46.62
22	2.9	8.9	15.0	27.0	33.3	39.2	45.1	51.3	3.6	9.6	15.4	39.21	0.01	10.51	3.02	46.71
24	3.2	9.2	15.2	27.3	33.3	39.0	45.6	51.4	3.4	9.2	15.5	39.30	0.17	10.09	2.96	46.60
25	3.2	9.2	15.3	27.3	33.5	39.3	45.1	51.6	3.6	9.7	15.6	39.40	+0.15	10.04	2.92	46.67
26	3.9	9.7	16.0	27.8	33.9	39.9	46.0	52.2	4.3	10.4	16.2	40.03	-0.12	9.75	2.87	46.79
29	4.2	10.2	16.2	28.3	34.5	40.5	46.5	52.5	4.6	10.6	16.6	40.43	+0.08	8.90	2.77	46.62
PI. XI. 103. $a_0 = 11^h 26^m 42^s.64$																
April 21	18.3	20.7	23.0	27.9	30.2	32.6	35.1	37.5	42.4	44.7	47.0	32.67	-0.05	+10.79	-0.87	26 42.54
24	19.0	21.4	23.9	28.6	31.0	33.5	35.8	38.3	43.0	45.4	47.9	33.44	0.06	10.09	0.84	42.63
25	19.0	21.3	23.8	28.7	31.0	33.4	35.9	38.2	43.0	45.5	48.0	33.44	0.06	10.04	0.83	42.59
26	19.0	21.3	23.8	28.6	31.0	33.5	35.9	38.2	43.1	45.6	48.1	33.46	0.00	9.75	0.82	42.39
27	19.4	21.6	24.2	29.1	31.4	33.8	36.1	38.6	43.4	45.9	48.1	33.78	0.04	9.59	0.81	42.52

Date. 1872.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.							
			E.	G.															
σ LEONIS.* $\delta_0 = + 6^\circ 43' 49''.4$																			
April 23	14	5.5	35	4	23.5	7.9	39	15.70	38	53.28	43	55.07	-0	42.69	-1.25	+34.45	+3.80	43	49.4
25	14	5.1	35	4	23.1	11.5	39	17.30	38	54.24	43	54.11	0	41.63	1.25	33.61	3.70		48.5
26	14	6.6	35	4	22.1	15.2	39	18.65	38	57.15	43	51.20	0	40.19	1.25	35.08	3.60		48.4
27	14	41.2	35	3	35.0	28.8	38	31.90	38	55.36	43	52.99	0	41.58	1.25	35.45	3.50		49.1
λ CRATERIS. $\delta_0 = - 18^\circ 4' 36''.4$																			
April 21	17	7.8	25	1	9.8	2.7	26	6.25	26	26.97	3	38.62	-1	41.45	-2.01	+33.84	+9.46	4	38.8
22	16	35.3	25	1	47.2	40.2	26	43.70	26	23.36	3	35.01	1	43.66	1.97	34.33	9.51		36.8
23	16	31.1	25	1	54.0	42.1	26	48.05	26	22.10	3	33.75	1	44.71	1.93	34.45	9.57		36.4
24	16	34.2	25	1	51.2	42.0	26	46.60	26	24.51	3	36.16	1	42.57	1.95	33.71	9.62		37.3
25	16	37.4	25	1	49.0	40.7	26	44.85	26	26.63	3	38.28	1	42.06	1.97	33.61	9.67		39.0
26	16	33.6	25	1	56.0	52.8	26	54.40	26	31.31	3	42.96	1	38.57	1.94	35.08	9.72		38.7
27	16	34.7	25	1	52.8	47.7	26	50.25	26	28.17	3	39.82	1	41.92	1.94	35.45	9.76		38.5
γ CRATERIS. $\delta_0 = - 16^\circ 58' 54''.0$																			
April 21	18	2.1	20	1	11.3	5.2	21	8.25	20	46.66	57	58.31	-1	37.12	-1.98	+33.84	+9.25	58	54.3
22	18	0.2	20	1	11.9	3.5	21	7.70	20	43.22	57	54.87	1	39.23	1.95	34.33	9.30		52.4
23	18	0.9	20	1	12.8	0.3	21	6.55	20	42.57	57	54.22	1	40.24	1.95	34.45	9.35		52.6
24	18	3.8	20	1	11.1	1.6	21	6.35	20	45.89	57	57.54	1	38.19	1.97	33.71	9.40		54.6
25	18	2.6	20	1	12.1	3.9	21	8.00	20	46.03	57	57.68	1	37.70	1.96	33.61	9.44		54.3
26	18	3.9	20	1	16.8	12.1	21	14.45	20	53.86	58	5.51	1	34.36	1.96	35.08	9.48		57.3
τ LEONIS. $\delta_0 = + 3^\circ 33' 39''.9$																			
April 21	20	56.9	45	4	22.1	13.1	49	17.60	48	58.74	33	49.61	-0	46.44	-1.45	+33.84	+4.76	33	40.3
22	20	52.2	45	4	29.9	17.9	49	23.90	48	58.49	33	49.86	0	47.45	1.37	34.33	4.72		40.1
23	20	56.1	45	4	26.0	9.9	49	17.95	48	57.26	33	51.09	0	47.94	1.36	34.45	4.67		40.9
24	20	55.8	45	4	25.9	12.9	49	19.40	48	58.18	33	50.17	0	46.96	1.36	33.71	4.63		40.2
25	20	54.8	45	4	28.3	16.8	49	22.55	49	0.02	33	48.33	0	46.71	1.36	33.61	4.58		38.5
26	20	55.8	45	4	30.1	20.8	49	25.45	49	3.97	33	44.38	0	45.12	1.36	35.08	4.54		37.5
λ DRACONIS.* $\delta_0 = + 70^\circ 2' 13''.6$																			
April 21	22	49.6	20	2	0.0	39.6	21	49.80	21	27.83	1	20.52	+0	30.27	+2.63	+33.84	-11.40	2	15.9
22	22	51.5	20	2	0.2	41.3	21	50.75	21	29.41	1	18.94	0	30.94	2.63	34.33	11.60		15.2
24	22	53.8	20	1	58.2	37.7	21	47.95	21	27.59	1	20.76	0	30.61	2.60	33.71	12.00		15.7
25	22	53.8	20	1	58.1	37.7	21	47.90	21	27.50	1	20.85	0	30.45	2.60	33.61	12.30		15.2
26	22	52.6	20	1	56.1	41.4	21	48.75	21	27.54	1	20.81	0	29.42	2.63	35.08	12.40		15.5
29	22	54.8	20	1	57.8	38.3	21	48.05	21	27.65	1	20.70	0	31.07	2.60	34.23	13.10		15.5
PI. XI. 103. $\delta_0 = - 31^\circ 8' 58''.9$																			
April 21	26	8.5	25	4	50.0	42.5	29	46.25	29	19.07	6	30.72	-3	12.37	-2.07	+33.86	+11.42	8	59.9
24	26	9.5	25	4	48.9	38.8	29	43.85	29	17.00	6	28.65	3	15.04	1.98	33.71	11.78		60.2
25	26	12.8	25	4	45.1	35.2	29	40.15	29	17.01	6	28.66	3	13.49	2.02	33.61	11.90		58.7
26	(26 13.9)		25	4	55.5	49.0	29	52.25	29	30.24	6	41.89	3	6.98	2.03	35.08	12.02		(63.8)
27	26	13.8	25	4	44.1	37.1	29	40.60	29	18.13	6	29.78	3	13.25	2.03	35.45	12.12		57.5

Date. 1872.	Right Ascension Wires.											Seconds of transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.
	1	2	3	4	5	6	7	8	9	10	11					
B. A. C. 3934. $\alpha_0 = 11^h 28^m 16^s.50$																
April 21	52.1	54.6	56.9	1.7	4.1	6.7	9.1	11.5	16.4	18.8	21.3	6.65	-0.05	+10.79	-0.88	28 16.51
25	52.9	55.2	58.0	2.5	5.0	7.6	9.8	12.3	17.0	19.6	22.0	7.45	0.06	10.04	0.84	16.59
26	52.9	55.3	58.0	2.6	5.0	7.6	10.0	12.5	17.2	19.7	22.2	7.55	0.00	9.75	0.83	16.47
27	53.2	55.7	58.0	3.0	5.3	7.8	10.3	12.9	17.6	20.0	22.4	7.84	0.04	9.59	0.82	16.57
29	53.9	56.3	58.8	3.5	6.0	8.5	10.9	13.3	18.3	20.7	23.1	8.48	0.05	8.90	0.80	16.53
ν LEONIS.* $\alpha_0 = 11^h 30^m 23^s.69$																
April 21	1.4	3.5	5.6	9.7	11.7	13.7	15.8	17.9	22.0	24.2	26.2	13.79	-0.01	+10.79	-0.82	30 23.75
24	2.0	4.1	6.2	10.4	12.4	14.5	16.6	18.6	22.7	24.8	26.9	14.47	0.02	10.09	0.81	23.73
25	2.1	4.1	6.2	10.3	12.4	14.5	16.6	18.7	22.7	24.8	26.9	14.48	0.01	10.03	0.80	23.70
26	2.4	4.5	6.6	10.6	12.7	14.7	16.7	18.9	23.0	25.0	27.1	14.75	0.02	9.74	0.79	23.68
27	2.6	4.7	6.7	10.8	12.8	15.0	17.0	19.0	23.1	25.3	27.4	14.95	0.01	9.58	0.78	23.74
29	3.3	5.3	7.3	11.5	13.4	15.5	17.7	19.7	23.8	25.8	27.9	15.56	0.02	8.89	0.77	23.66
May 20	5.6	7.7	9.9	14.0	16.0	18.0	20.1	22.2	26.4	28.4	30.5	18.07	0.01	6.24	0.59	23.71
γ CEPHEI L. C.* $\alpha_0 = 23^h 34^m 6^s.66$																
April 21	...	...	...	32.7	41.7	51.2	0.4	9.2	...	...	...	51.04	-0.18	+10.79	+5.15	34 6.80
24	57.4	6.4	15.5	33.7	42.7	51.6	1.0	10.4	28.6	37.7	46.5	51.95	0.26	10.09	4.95	6.73
25	57.4	7.0	16.0	34.0	43.2	52.1	1.5	10.6	28.5	37.7	46.9	52.26	-0.23	10.03	4.88	6.94
26	57.5	6.4	15.6	34.0	43.1	52.2	1.0	10.4	28.6	37.0	47.0	52.07	+0.20	9.74	4.80	6.81
27	58.3	7.1	16.4	34.6	43.9	52.9	2.0	11.0	28.0	37.4	45.1	52.43	-0.10	9.58	4.72	6.63
29	...	...	...	35.3	44.2	53.7	2.1	11.4	...	...	...	53.34	-0.12	8.89	4.58	6.69
B. A. C. 3973. $\alpha_0 = 11^h 36^m 50^s.34$																
April 20	23.8	26.7	29.4	35.0	37.7	40.5	43.4	46.2	51.7	54.5	57.3	40.56	+0.06	+10.97	-1.37	36 50.22
25	24.7	27.5	30.3	35.9	38.7	41.5	44.3	47.0	52.6	55.4	58.3	41.47	+0.04	10.03	1.31	50.23
26	25.1	27.9	30.7	36.2	39.0	41.8	44.6	47.5	53.0	55.8	58.7	41.85	-0.05	9.74	1.30	50.24
27	25.0	27.9	30.7	36.3	39.0	41.9	44.6	47.6	52.9	55.8	58.7	41.85	+0.01	9.58	1.29	50.15
29	25.7	28.6	31.4	37.0	39.7	42.6	45.3	48.0	53.9	56.5	59.3	42.55	+0.02	8.89	1.26	50.20
χ URSÆ MAJORIS.* $\alpha_0 = 11^h 39^m 17^s.00$																
April 20	49.0	52.0	55.0	1.3	4.5	7.5	10.7	13.8	19.9	23.0	26.2	7.54	+0.07	+10.97	-1.57	39 17.01
25	49.8	52.7	55.9	2.1	5.2	8.3	11.5	14.6	20.8	23.9	27.0	8.35	+0.06	10.03	1.51	16.93
26	50.1	53.1	56.2	2.6	5.6	8.8	11.8	15.0	21.2	24.2	27.4	8.73	-0.06	9.74	1.50	16.91
27	...	...	...	2.6	5.6	8.7	11.8	15.0	...	...	...	8.74	+0.02	9.58	1.48	16.86
May 22	52.7	55.7	58.8	5.1	8.3	11.2	14.3	17.5	23.9	26.9	30.1	11.30	-0.09	6.77	1.05	16.93
β LEONIS.* $\alpha_0 = 11^h 42^m 31^s.75$																
April 20	8.9	11.0	13.1	17.4	19.5	21.7	23.8	26.0	30.2	32.4	34.5	21.68	+0.01	+10.97	-0.94	42 31.72
24	9.9	11.9	14.0	18.4	20.5	22.7	24.8	26.9	31.0	33.2	35.4	22.61	0.00	10.09	0.91	31.79
25	9.9	12.0	14.1	18.4	20.5	22.6	24.8	26.9	31.2	33.3	35.4	22.65	+0.00	10.03	0.91	31.77
26	10.1	12.1	14.4	18.7	20.8	23.0	25.0	27.2	31.4	33.6	35.7	22.91	-0.02	9.74	0.90	31.73
27	10.3	12.3	14.6	18.8	20.9	23.0	25.1	27.3	31.7	33.8	35.9	23.06	0.01	9.58	0.90	31.73
May 20	13.4	15.6	17.7	22.0	24.1	26.2	28.3	30.5	34.7	36.9	39.0	26.22	0.03	6.24	0.70	31.73
22	12.9	15.0	17.2	21.4	23.6	25.7	27.8	29.9	34.1	36.3	38.5	25.67	0.03	6.77	0.68	31.73

Date. 1872.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.								
			E.	G.																
B. A. C. 3934.													$\delta_0 = -32^\circ 9' 12''.3$							
April	21	m. 27	s. 44.1	' 25	' 4	" 48.7	" 40.5	' 29	" 44.60	' 29	" 19.60	' 6	" 31.25	' -3	" 25.18	' -2.10	" +33.84	" +11.52	' 9	" 13.2
	25	27	45.9	25	4	50.1	39.9	29	45.00	29	21.11	6	32.76	3	26.35	2.03	33.61	12.02		15.5
	26	27	48.2	25	4	55.7	48.9	29	52.30	29	30.85	6	42.50	3	19.51	2.05	35.08	12.14		16.8
	27	27	48.5	25	4	45.0	38.1	29	41.55	29	20.10	6	31.75	3	26.11	2.05	35.45	12.25		12.2
	29	27	47.3	25	4	44.7	34.7	29	39.70	29	16.14	6	27.79	3	30.65	2.04	34.23	12.47		13.8
v LEONIS.*													$\delta_0 = -0^\circ 7' 2''.7$							
April	21	29	54.3	30	0	6.5	58.1	30	2.30	29	36.71	6	48.36	-0	52.90	-1.59	+33.84	+5.70	7	3.3
	24	30	0.4	30	0	1.3	49.8	29	55.55	29	37.04	6	48.69	0	53.50	1.45	33.71	5.60		4.3
	25	29	56.5	30	0	5.0	56.0	30	0.50	29	36.88	6	48.53	0	53.20	1.59	33.61	5.60		4.1
	26	29	58.2	30	0	6.1	0.3	30	3.20	29	41.55	6	53.20	0	51.41	1.59	35.08	5.60		5.5
	27	29	58.0	30	0	4.0	57.8	30	0.90	29	38.72	6	50.37	0	53.13	1.59	35.45	5.50		4.1
May	29	29	57.9	30	0	3.8	54.9	29	59.35	29	36.12	6	47.77	0	54.29	1.44	34.23	5.50		3.8
	20	30	12.3	25	4	7.9	1.1	29	4.50	28	56.89	6	8.54	0	51.22	1.47	-6.53	5.70		2.1
γ CEPHEI L. C.*													$\delta_0 = +103^\circ 4' 55''.6$							
April	21	33	55.5	20	0	8.1	46.1	19	57.10	19	55.76	2	52.59	+1	42.55	+2.12	+33.84	-14.90	4	56.2
	24	33	25.8	20	0	1.9	39.2	19	50.55	19	58.31	2	50.04	1	43.75	2.29	33.71	15.60		54.2
	25	32	44.6	15	4	49.1	25.1	19	37.10	19	57.16	2	51.19	1	43.12	2.76	33.61	15.80		54.9
	26	32	44.1	15	4	42.8	23.9	19	33.35	19	53.50	2	54.85	1	39.72	2.76	35.08	15.90		56.5
	27	32	50.8	15	4	49.9	29.7	19	39.80	19	58.05	2	50.30	1	43.01	2.67	35.45	16.20		55.2
	29	34	0.2	20	0	11.9	51.2	20	1.55	19	59.45	2	48.90	1	45.28	2.08	34.23	16.40		54.1
B. A. C. 3973.													$\delta_0 = +42^\circ 25' 56''.2$							
April	20	36	16.8	55	2	49.5	36.2	57	42.85	57	19.90	25	28.45	+0	.05	-0.12	+32.96	-4.21	25	57.1
	25	36	25.2	55	2	42.3	27.0	57	34.65	57	18.87	25	29.48	0	.05	0.00	33.61	5.16		58.0
	26	36	19.3	55	2	47.1	37.2	57	42.15	57	20.36	25	27.99	0	.05	0.05	35.08	5.34		57.7
	27	36	20.4	55	2	47.1	35.9	57	41.50	57	20.68	25	27.67	0	.05	0.04	35.45	5.52		57.6
	29	36	21.3	55	2	47.8	34.1	57	40.95	57	20.37	25	27.98	0	.05	0.04	34.23	5.88		56.3
χ URSÆ MAJORIS.*													$\delta_0 = +48^\circ 29' 19''.8$							
April	20	38	39.1	50	4	35.8	17.5	54	26.65	54	1.96	28	46.39	+0	6.14	+0.06	+32.96	-5.50	29	20.0
	25	38	42.5	50	4	34.1	14.1	54	24.10	54	1.64	28	46.71	0	6.22	0.19	33.61	6.50		20.2
	26	38	43.6	50	4	30.1	15.2	54	22.65	54	0.83	28	47.52	0	6.01	0.20	35.08	6.70		22.1
	27	39	23.8	50	3	58.1	41.2	53	49.65	54	2.78	28	45.57	0	6.21	0.30	35.45	6.90		20.6
May	22	38	47.1	50	3	45.2	30.2	53	37.70	53	16.66	29	31.69	0	6.11	0.20	-7.18	10.80		20.0
β LEONIS.*													$\delta_0 = +15^\circ 17' 14''.8$							
April	20	42	4.8	5	1	6.0	56.2	6	1.10	5	39.71	17	8.64	-0	29.31	-1.11	+32.96	+2.50	17	13.7
	24	42	10.4	5	0	1.2	47.5	5	54.35	5	38.91	17	9.44	0	29.92	0.95	33.71	2.10		14.4
	25	42	5.9	5	1	5.9	53.1	5	59.50	5	38.36	17	9.99	0	29.73	1.08	33.61	2.00		14.8
	26	42	6.2	5	1	7.1	59.9	6	3.50	5	42.36	17	5.99	0	28.76	1.08	35.08	1.90		13.1
	27	42	5.9	5	1	7.1	58.0	6	2.55	5	40.78	17	7.57	0	29.70	1.08	35.45	+1.80		14.0
May	20	42	10.0	5	0	21.0	14.6	5	17.65	4	57.15	17	51.20	0	28.64	1.09	-6.53	-1.30		14.6
	22	42	9.1	5	0	21.3	13.3	5	17.30	4	56.29	17	52.06	0	29.23	1.09	-7.18	-1.50		14.1

Date. 1872.	Right Ascension Wires.											Seconds of Transit over Mean Wire.	n tang. δ + κ .	$\Delta T + m$.	Red. to 1872.0.	Mean Right Ascension for 1872.0.	
	1	2	3	4	5	6	7	8	9	10	11						
β VIRGINIS.* $a_0 = 11^h 44^m 1^s.61$																	
April 20	39.2	41.2	43.3	47.4	49.5	51.6	53.6	55.7	59.7	1.9	3.9	51.55	-0.01	+10.97	-0.90	44	1.61
25	40.1	42.3	44.3	48.5	50.5	52.6	54.6	56.7	0.7	2.8	4.8	52.54	0.01	10.03	0.88		1.68
26	...	...	...	48.7	50.7	52.8	54.8	56.9	...	...	...	52.78	0.02	9.74	0.88		1.62
27	40.6	42.8	44.7	48.8	51.0	53.0	55.0	57.1	1.3	3.2	5.4	52.99	0.01	9.58	0.87		1.69
May 22	43.1	45.3	47.4	51.6	53.6	55.6	57.6	59.6	3.8	5.7	7.8	55.55	0.02	6.77	0.67		1.63
γ URSÆ MAJORIS.* $a_0 = 11^h 47^m 5^s.31$																	
April 20	34.7	38.4	42.0	49.0	52.0	56.1	59.6	3.1	10.3	13.9	17.4	56.05	+0.09	+10.97	-1.89	47	5.22
24	35.8	39.0	42.8	49.7	53.3	56.8	0.3	3.8	11.0	14.4	17.9	56.80	0.08	10.09	1.82		5.15
25	...	...	...	49.7	53.3	56.9	0.5	4.1	...	...	...	56.90	+0.07	10.03	1.81		5.19
26	36.6	39.6	43.2	50.2	53.7	57.3	0.9	4.5	11.5	15.1	18.7	57.39	-0.07	9.74	1.79		5.27
27	36.1	39.7	43.1	50.2	53.8	57.4	0.9	4.5	11.4	15.0	18.6	57.34	+0.03	9.58	1.78		5.17
May 20	39.3	42.8	46.3	53.5	56.9	0.6	4.0	7.6	15.0	18.2	21.7	0.54	-0.10	6.24	1.32		5.36
22	38.7	42.2	45.6	52.8	56.2	59.8	3.4	6.9	14.0	17.5	21.0	59.83	-0.11	6.77	1.27		5.22
GROOMBRIDGE 4163. $a_0 = 23^h 48^m 37^s.77$																	
April 20	...	...	...	7.9	15.2	22.3	30.0	37.2	...	...	...	22.52	-0.24	+10.97	+4.43	48	37.68
24	...	...	...	8.6	16.4	23.6	31.0	38.1	...	...	...	23.54	0.21	10.09	4.21		37.63
25	39.4	46.8	54.6	9.0	16.3	23.7	31.0	38.6	52.6	0.4	7.6	23.64	-0.18	10.03	4.16		37.65
26	...	...	...	9.0	16.1	23.5	31.0	38.5	...	...	...	23.62	+0.16	9.74	4.10		37.62
27	...	...	...	9.6	17.3	24.6	31.9	39.0	...	...	...	24.48	-0.08	9.58	4.04		38.02
δ VIRGINIS. $a_0 = 11^h 53^m 23^s.52$																	
April 20	1.1	3.1	5.2	9.3	11.5	13.4	15.6	17.6	21.7	23.8	25.8	13.46	-0.01	+10.97	-0.93	53	23.49
24	1.9	4.0	6.1	10.1	12.3	14.3	16.4	18.6	22.6	24.7	26.8	14.35	0.01	10.09	0.91		23.52
25	2.0	4.1	6.2	10.4	12.4	14.5	16.5	18.6	22.7	24.8	26.8	14.45	0.01	10.03	0.90		23.57
26	2.3	4.4	6.4	10.6	12.6	14.7	16.7	18.8	23.0	25.0	27.1	14.69	0.02	9.74	0.90		23.51
27	2.6	4.6	6.6	10.8	12.8	15.0	17.0	19.0	23.1	25.3	27.4	14.93	0.01	9.58	0.89		23.61
67 URSÆ MAJORIS. $a_0 = 11^h 55^m 36^s.37$																	
April 20	9.8	12.7	15.4	21.3	24.0	27.0	29.8	32.6	38.3	41.2	44.0	26.92	+0.06	+10.97	-1.50	55	36.45
25	10.7	13.6	16.4	22.0	24.8	27.8	30.7	33.5	39.1	42.0	45.0	27.78	+0.05	10.03	1.45		36.41
26	11.0	13.9	16.7	22.5	25.3	28.1	30.9	33.8	39.6	42.4	45.3	28.14	-0.05	9.74	1.44		36.39
27	11.2	14.0	16.9	22.6	25.4	28.3	31.0	34.0	39.7	42.4	45.4	28.26	+0.02	9.58	1.43		36.43
30	12.0	14.8	17.7	23.3	26.3	29.1	32.0	34.8	40.6	43.4	46.2	29.11	+0.03	8.69	1.39		36.44
May 22	13.7	16.5	19.4	25.1	27.9	30.7	33.5	36.5	42.2	45.0	48.0	30.77	-0.08	6.77	1.08		36.38
ϵ VIRGINIS.* $a_0 = 11^h 58^m 41^s.30$																	
April 20	18.8	20.8	22.9	27.0	29.2	31.3	33.4	35.4	39.6	41.7	43.8	31.26	-0.00	+10.97	-0.97	58	41.26
25	19.7	21.8	23.9	28.0	30.2	32.2	34.3	36.4	40.6	42.7	44.8	32.24	0.00	10.03	0.95		41.32
26	19.9	22.0	24.0	28.3	30.4	32.4	34.5	36.6	40.8	42.9	45.0	32.44	0.02	9.74	0.94		41.22
27	20.2	22.3	24.3	28.5	30.7	32.7	34.8	36.8	41.0	43.1	45.2	32.69	0.01	9.58	0.94		41.32
May 22	22.8	24.9	26.9	31.1	33.2	35.3	37.4	39.4	43.7	45.6	47.8	35.28	0.03	6.77	0.74		41.28
4 H. DRACONIS.* $a_0 = 12^h 6^m 10^s.47$																	
April 20	3.9	14.0	24.3	44.9	55.1	5.1	15.4	25.6	45.6	56.0	6.3	5.11	+0.33	+10.97	-6.14	6	10.27
25	4.8	15.1	24.9	45.8	55.7	6.3	16.1	26.0	47.2	56.8	7.2	5.99	+0.26	10.03	5.88		10.40
26	5.4	15.4	25.7	46.5	56.7	6.7	16.9	27.3	47.6	57.6	7.9	6.70	-0.22	9.74	5.83		10.39
30	5.7	16.1	26.2	46.5	56.7	7.0	17.0	27.3	48.4	57.7	7.9	6.96	+0.19	8.69	5.58		10.26
May 22	...	...	...	...	...	7.9	18.6	28.2	48.6	8.2	9.1	7.84	-0.36	6.77	3.97		10.28

Date. 1872.	Declination Wire.	Circle Divi- sion.	Microscopes.		Mean of Microscopes.	Mean reduced to Horizontal Wire.	Apparent Declination.	Refraction.	Rd. M'n. + Runs. + Flex.	Eqr. Point Correct'n.	Red. to 1872.0.	Mean Declination for 1872.0.
			E.	G.								
β VIRGINIS.* $\delta_0 = + 2^\circ 29' 8''.9$												
April 20	43 50.3	50 3	35.9	24.1	53 30.00	53 28.44	29 19.91	-0 47.86	-1.49	+32.96	+5.30	29 8.8
25	43 36.9	50 3	55.0	42.4	53 48.70	53 28.25	29 20.10	0 48.55	1.41	33.61	5.20	8.9
26	44 2.0	50 3	24.1	16.9	53 20.50	53 32.56	29 15.79	0 46.97	1.42	35.08	5.20	7.7
27	43 36.3	50 3	55.9	46.2	53 51.05	53 29.16	29 19.19	0 48.51	1.41	35.45	5.20	9.9
May 22	44 7.1	50 2	35.1	26.3	52 30.70	52 45.78	30 2.57	0 47.73	1.45	- 7.18	3.80	10.0
γ URSÆ MAJORIS.* $\delta_0 = + 54^\circ 24' 22''.5$												
April 20	46 55.5	55 4	13.6	57.0	59 5.30	59 4.84	23 43.51	+0 12.21	+0.52	+32.96	- 6.50	24 22.7
24	46 28.9	55 4	36.5	16.1	59 26.30	59 5.00	23 43.35	0 12.47	0.41	33.71	7.40	22.5
25	46 51.2	55 4	17.2	58.1	59 7.65	59 3.29	23 45.06	0 12.38	0.60	33.61	7.60	24.0
26	46 28.8	55 4	33.8	18.5	59 26.15	59 4.32	23 44.03	0 11.99	0.39	35.08	7.80	23.7
27	46 28.9	55 4	34.1	20.0	59 27.05	59 5.37	23 42.98	0 12.37	0.40	35.45	8.00	23.2
May 20	47 0.8	55 3	26.0	12.1	58 19.05	58 19.28	24 29.07	0 11.93	0.58	- 6.53	11.80	23.2
22	46 34.8	55 4	44.9	30.5	59 37.70	59 18.62	23 29.73	0 12.17	0.46	7.18	12.10	23.1
GROOMBRIDGE 4163. $\delta_0 = + 106^\circ 18' 7''.7$												
April 20	47 56.8	5 2	1.2	38.0	6 49.60	6 59.06	15 49.29	+1 56.44	+2.26	+32.96	-14.00	18 6.9
24	48 9.1	5 2	9.1	43.8	6 56.45	7 1.75	15 46.60	1 58.91	2.23	33.71	14.80	6.6
25	48 6.1	5 2	6.1	41.5	6 53.80	7 0.21	15 48.14	1 58.09	2.25	33.61	15.00	7.1
26	48 2.7	5 1	57.2	37.2	6 47.20	6 54.89	15 53.46	1 54.30	2.26	35.08	15.10	10.0
27	48 3.0	5 2	3.9	42.1	6 53.00	7 0.91	15 47.44	1 58.00	2.27	35.45	15.30	7.9
δ VIRGINIS. $\delta_0 = + 4^\circ 22' 5''.5$												
April 20	52 53.3	0 1	7.5	55.7	1 1.60	0 35.17	22 13.18	-0 44.79	-1.47	+32.96	+5.14	22 5.0
24	52 59.0	0 1	2.2	46.1	0 54.15	0 34.13	22 14.22	0 45.74	1.44	33.71	4.96	5.7
25	53 2.5	0 0	56.9	43.5	0 50.20	0 34.50	22 13.85	0 45.41	1.44	33.61	4.91	5.5
26	52 58.5	0 1	3.9	53.9	0 58.90	0 37.70	22 10.65	0 43.96	1.44	35.08	4.85	5.2
27	52 57.3	0 1	4.5	53.9	0 59.20	0 36.17	22 12.18	0 45.38	1.44	35.45	4.79	5.6
67 URSÆ MAJORIS. $\delta_0 = + 43^\circ 45' 20''.4$												
April 20	55 3.1	35 3	29.9	15.2	38 22.55	38 0.01	44 48.34	+0 1.38	-0.08	+32.96	-3.43	45 19.2
25	55 6.0	35 3	27.9	12.1	38 23.00	37 59.35	44 49.00	0 1.39	+0.02	33.61	4.45	19.6
26	55 4.4	35 3	28.9	15.1	38 22.00	37 59.55	44 48.80	0 1.35	-0.01	35.08	4.65	20.6
27	55 5.6	35 3	28.1	15.0	38 21.55	38 0.05	44 48.30	0 1.39	+0.01	35.45	4.84	20.3
30	55 7.4	35 3	29.2	12.2	38 20.70	38 0.34	44 48.01	0 1.42	+0.02	35.06	5.41	19.1
May 22	55 7.8	35 2	43.0	31.1	37 37.05	37 15.26	45 33.09	0 1.37	-0.01	- 7.18	8.95	18.3
ϵ VIRGINIS.* $\delta_0 = + 9^\circ 26' 38''.0$												
April 20	58 18.3	55 1	31.5	20.8	56 26.15	56 9.32	26 39.03	-0 37.15	-1.29	+32.96	+4.20	26 37.7
25	58 15.1	55 1	37.7	24.8	56 31.25	56 9.12	26 39.23	0 37.65	1.27	33.61	3.90	37.8
26	58 16.2	55 1	37.1	28.0	56 32.55	56 11.58	26 36.77	0 36.47	1.26	35.08	3.80	37.9
27	58 16.9	55 1	36.9	26.9	56 31.90	56 11.45	26 36.90	0 37.62	1.26	35.45	3.70	37.2
May 22	58 20.3	55 0	51.1	43.2	55 47.15	55 27.73	26 20.62	0 37.03	1.26	- 7.18	1.70	36.9
4 H. DRACONIS.* $\delta_0 = + 78^\circ 19' 39''.4$												
April 20	5 1.9	0 4	42.4	19.7	4 31.05	4 14.31	18 34.04	+0 41.58	+1.00	+32.96	- 9.30	19 40.3
25	4 31.9	0 4	50.9	26.8	4 38.85	4 13.92	18 34.43	0 42.14	1.00	33.61	10.50	40.7
26	6 41.1	0 4	14.2	54.8	4 4.50	4 13.65	18 34.70	0 40.83	1.37	35.08	10.70	41.3
30	4 44.4	0 4	49.9	24.9	4 37.40	4 15.51	18 32.84	0 42.85	1.41	35.06	11.70	40.5
May 22												

CATALOGUE I.

CATALOGUE OF THE PRIMARY STARS

OBSERVED DURING THE YEARS 1871 AND 1872,

WITH THE

MERIDIAN CIRCLE OF HARVARD COLLEGE OBSERVATORY.

CATALOGUE OF THE LIBRARY

OF THE UNIVERSITY OF CHICAGO

1892

RECEIVED FROM THE LIBRARY OF THE UNIVERSITY OF CHICAGO

CATALOGUE I

Author	Title	Date
A. B. C.	12345	1890
D. E. F.	67890	1891
G. H. I.	11111	1892
J. K. L.	22222	1893
M. N. O.	33333	1894
P. Q. R.	44444	1895
S. T. U.	55555	1896
V. W. X.	66666	1897
Y. Z. A.	77777	1898
B. C. D.	88888	1899

CATALOGUE OF THE PRIMARY STARS

OBSERVED DURING THE YEARS 1871 AND 1872,

WITH THE

MERIDIAN CIRCLE OF HARVARD COLLEGE OBSERVATORY.

Number.	Name of Star.	Mean Right Ascension 1872.0.			Annual Variation 1872.0.	Mean Year.	No. of Obs.	Corr. to Cata- logue.	Mean Declination 1872.0.			Annual Variation 1872.0.	Corr. to Cata- logue.
		<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>			<i>s.</i>	<i>°</i>	<i>'</i>	<i>"</i>	<i>"</i>	<i>"</i>
1	α Andromedæ . . .	0	1	46.465	+3.0871	1.9	11	+0.001	+28	23	1.46	+19.907	+0.21
2	22 Andromedæ . . .	0	3	40.455	+3.0958	1.9	10	-.078	+45	21	34.47	+20.051	-0.69
3	γ Pegasi	0	6	38.772	+3.0825	1.9	4	-.004	+14	28	18.53	+20.031	+0.47
4	ι Ceti	0	12	54.378	+3.0586	1.9	5	+0.026	- 9	32	1.56	+19.957	+0.47
5	12 Ceti	0	23	30.435	+3.0610	1.9	4	+0.028	- 4	39	52.98	+19.923	+0.84
6	κ Cassiopeiæ . . .	0	25	44.441	+3.3577	1.9	7	+0.019	+62	13	29.20	+19.939	-0.95
7	α Cassiopeiæ . . .	0	33	15.305	+3.3626	1.9	10	-.070	+55	50	5.31	+19.788	+0.15
8	21 Cassiopeiæ . . .	0	37	14.403	+3.8321	1.9	3	+0.308	+74	17	15.73	+19.744	+0.54
9	ζ Andromedæ . . .	0	40	33.440	+3.1684	1.9	5	-.001	+23	34	12.78	+19.658	-0.62
10	η Cassiopeiæ . . .	0	41	22.195	+3.5802	1.9	4	+0.188	+57	8	10.00	+19.244	+0.30
11	γ Cassiopeiæ . . .	0	48	59.920	+3.5685	2.0	3	-.045	+60	1	21.95	+19.571	+0.01
12	ϵ Piscium	0	56	18.143	+3.1084	2.0	7	+0.056	+ 7	12	2.23	+19.483	+1.06
13	β Andromedæ . . .	1	2	34.212	+3.3411	2.0	9	-.061	+34	56	28.08	+19.218	-0.69
14	τ Piscium	1	4	36.890	+3.2910	2.0	8	-.109	+29	24	34.12	+19.228	+0.51
15	α Ursæ Minoris . .	1	11	58.541	+20.3881	2.0	9	+0.931	+88	37	....	+19.092	....
15	α Ursæ Minoris L. C.	1	11	58.128	.....	1.3	4	+0.518	+88	37	34.85	.....	+2.08
16	θ Ceti	1	17	37.554	+2.9978	2.0	7	+0.012	- 8	50	41.70	+18.706	-1.34
17	η Piscium	1	24	38.168	+3.1983	2.0	10	+0.027	+14	41	5.69	+18.711	-0.68
18	ν Persei	1	30	8.729	+3.6456	2.0	11	+0.045	+47	58	42.80	+18.403	-0.12
19	ν Piscium	1	34	46.291	+3.1165	2.0	7	-.014	+ 4	50	21.19	+18.362	+1.08
20	σ Piscium	1	38	38.164	+3.1614	2.0	9	-.141	+ 8	30	44.58	+18.261	-0.12
21	β Arietis	1	47	34.331	+3.3005	2.0	11	+0.005	+20	10	51.99	+17.789	-0.55
22	50 Cassiopeiæ . . .	1	52	32.943	+4.9764	2.0	7	+0.045	+71	48	0.13	+17.708	-0.58
22	50 Cassiopeiæ L. C.	1	52	32.820	.....	1.5	3	-.078	.....	.....	.....	.....	.....
23	γ Andromedæ . . .	1	56	2.965	+3.6502	2.0	11	+0.036	+41	42	50.10	+17.485	-0.83

Number.	Name of Star.	Mean Right Ascension 1872.0.			Annual Variation 1872.0.	Mean Year.	No. of Obs.	Corr. to Cata- logue.	Mean Declination 1872.0.			Annual Variation 1872.0.	Corr. to Cata- logue.
		<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>			<i>s.</i>	<i>°</i>	<i>'</i>	<i>"</i>	<i>"</i>	<i>"</i>
24	α Arietis	1	59	57.665	+3.3674	2.0	8	-.011	+22	51	21.76	+17.231	+0.29
25	β Trianguli	2	1	55.942	+3.5470	2.1	5	+.005	+34	22	49.50	+17.247	-0.19
26	55 Cassiopeiæ	2	4	27.958	+4.6176	2.0	5	+.068	+65	55	20.40	+17.157	-0.56
27	6 Persei	2	5	6.190	+3.9480	2.1	3	-.001	+50	28	10.93	+16.959	+0.76
28	γ Trianguli	2	9	42.612	+3.5452	2.0	6	-.026	+33	15	13.18	+16.886	-0.55
29	67 Ceti	2	10	36.010	+2.9878	2.1	5	+.030	-7	0	48.96	+16.768	-0.93
30	σ Ceti	2	12	52.865	+3.0258	2.0	2	+.016	-3	33	36.65	+16.535	-0.16
31	ι Cassiopeiæ	2	18	33.060	+4.8364	2.0	11	+.197	+66	49	29.00	+16.472	-0.05
31	ι Cassiopeiæ, L. C.	2	18	32.800	.....	1.5	4	-.063	+66	49	30.00	.....	+0.95
32	ξ^2 Ceti	2	21	21.330	+3.1806	2.0	9	+.046	+7	53	5.46	+16.351	-0.32
33	ν Arietis	2	31	33.102	+3.3938	2.0	9	-.010	+21	24	23.23	+15.806	+0.76
34	δ Ceti	2	32	55.360	+3.0711	2.0	6	-.041	-0	13	30.78	+15.742	-0.40
35	θ Persei	2	35	28.006	+4.0593	2.0	8	-.015	+48	41	6.70	+15.508	+0.41
36	γ Ceti	2	36	40.210	+3.1024	2.0	6	+.026	+2	41	42.53	+15.403	+1.16
37	41 Arietis	2	42	27.170	+3.5130	2.0	10	-.002	+26	43	52.46	+15.098	+0.33
38	τ Persei	2	45	11.654	+4.2087	2.0	11	+.044	+52	14	11.49	+15.045	+0.41
39	47 H. Cephei	2	49	10.539	+7.6414	2.0	9	+.007	+78	54	33.34	+14.827	+1.65
40	α Ceti	2	55	35.392	+3.1285	2.0	11	+.014	+3	35	11.07	+14.342	+2.17
41	ρ Persei	2	56	58.786	+3.8197	2.0	8	-.035	+38	20	32.62	+14.267	-0.04
42	β Persei	2	59	50.795	+3.8763	2.0	11	-.008	+40	27	37.19	+14.193	-0.63
43	48 H. Cephei	3	4	9.997	+7.3476	2.0	8	-.065	+77	15	37.74	+13.853	+0.71
44	δ Arietis	3	4	18.750	+3.4194	2.0	4	-.028	+19	14	26.20	+13.925	-0.70
45	α Persei	3	15	11.601	+4.2494	2.0	12	-.097	+49	24	11.25	+13.146	-0.02
46	σ Tauri	3	17	55.627	+3.2206	2.0	10	+.009	+8	34	35.97	+12.942	+0.64
47	ξ Tauri	3	20	14.036	+3.2353	2.0	7	+.140	+9	17	4.71	+12.810	+0.80
48	f Tauri	3	23	48.485	+3.3042	2.0	7	-.036	+12	29	45.97	+12.616	-0.30
49	ϵ Eridani	3	26	54.074	+2.8226	2.0	8	+.057	-9	53	36.04	+12.400	-0.41
50	Groom. 716	3	31	4.003	+5.1395	2.0	9	-.021	+62	47	54.67	+12.192	-0.59
51	δ Persei	3	33	49.139	+4.2391	2.0	9	+.010	+47	22	32.98	+11.883	+0.65
52	η Tauri	3	39	52.698	+3.5528	2.0	8	+.003	+23	42	26.01	+11.466	+0.06
53	9 H. Camelopardi . .	3	46	14.328	+5.0614	2.0	6	-.026	+60	43	49.82	+11.050	-1.60
54	ζ Persei	3	46	5.390	+3.7562	2.0	2	-.010	+31	30	4.80	+11.034	+0.87
55	ϵ Persei	3	49	16.122	+4.0014	2.0	4	+.080	+39	38	14.28	+10.808	-0.34
56	λ Tauri	3	53	35.450	+3.3162	2.1	8	+.009	+12	7	35.24	+10.489	-0.17
57	c Persei	3	59	22.558	+4.3309	2.1	10	+.057	+47	22	5.09	+10.027	+0.63
58	σ^1 Eridani	4	5	37.129	+2.9253	2.1	8	+.008	-7	10	24.22	+9.679	-0.15
59	γ Tauri	4	12	30.648	+3.4066	2.1	9	+.006	+15	18	58.01	+9.050	-1.11
60	δ Tauri	4	15	33.295	+3.4602	2.1	9	+.054	+17	14	23.76	+8.799	-0.50
61	ϵ Tauri	4	21	8.665	+3.4954	2.1	7	+.014	+18	53	38.91	+8.366	-0.53
62	1 Camelopardi seq.	4	21	53.983	+4.7247	2.1	9	-.112	+53	37	47.72	+8.314	+2.07

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		<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>			<i>s.</i>	<i>°</i>	<i>'</i>	<i>"</i>	<i>"</i>	<i>"</i>
63	α Tauri	4	28	34.625	+3.4360	2.1	8	-.020	+16	14	58.02	+ 7.624	-0.97
64	ν Eridani	4	29	55.481	+2.9918	2.1	7	+.099	- 3	36	58.09	+ 7.665	-0.48
65	τ Tauri	4	34	33.876	+3.5925	2.1	7	+.043	+22	42	32.60	+ 7.279	+0.67
66	4 Camelopardi . .	4	37	20.895	+4.9708	2.1	8	-.045	+56	31	35.06	+ 6.919	+0.24
67	μ Eridani	4	39	6.209	+3.0001	2.1	7	-.031	- 3	29	28.50	+ 6.910	+0.58
68	9 Camelopardi . .	4	41	20.385	+5.9106	2.1	7	+.174	+66	7	16.68	+ 6.768	-0.20
68	9 Camelopardi L. C.	4	41	20.363	.....	1.6	3	+.152	+66	7	20.15	.....	+3.27
69	ι Aurigæ	4	48	39.581	+3.8971	2.1	7	-.021	+32	57	38.23	+ 6.131	-0.54
70	10 Camelopardi . .	4	52	2.344	+5.3108	2.1	5	-.123	+60	15	4.16	+ 5.853	-0.93
71	ε Aurigæ	4	52	47.227	+4.2906	2.1	3	+.077	+43	37	51.87	+ 5.795	+0.10
72	ζ Aurigæ	4	53	32.028	+4.1813	2.1	5	+.030	+40	53	9.34	+ 5.726	-0.72
73	ι Tauri	4	55	26.765	+3.5802	2.1	6	-.014	+21	24	17.18	+ 5.534	+0.34
74	λ Eridani	5	3	1.330	+2.8711	2.1	5	+.001	- 8	55	13.08	+ 4.904	+0.37
75	μ Aurigæ	5	4	40.263	+4.0965	2.1	7	-.029	+38	19	47.56	+ 4.726	-0.44
76	α Aurigæ	5	7	14.090	+4.4231	2.1	9	-.092	+45	51	52.89	+ 4.156	+0.07
77	β Orionis	5	8	23.236	+2.8815	2.1	7	+.005	- 8	21	5.91	+ 4.464	+0.40
78	τ Orionis	5	11	23.551	+2.9140	2.1	7	+.003	- 6	59	5.60	+ 4.197	-0.20
79	β Tauri	5	18	12.076	+3.7888	2.2	8	-.017	+28	29	48.09	+ 3.443	+1.04
80	Groom. 966 . . .	5	22	37.253	+7.9831	2.2	9	-.116	+74	57	13.38	+ 3.275	+0.77
81	δ Orionis	5	25	28.079	+3.0669	2.2	7	-.042	- 0	23	45.90	+ 2.970	+0.71
82	ε Orionis	5	29	43.181	+3.0443	2.1	7	+.023	- 1	17	10.36	+ 2.632	-0.91
83	σ Orionis	5	32	19.293	+3.0089	2.1	7	+.071	- 2	40	35.11	+ 2.398	-1.23
84	ϕ Aurigæ	5	35	59.127	+4.6413	2.1	6	+.040	+49	46	0.92	+ 2.065	+0.59
85	ν Aurigæ	5	42	37.176	+4.1538	2.1	7	+.099	+39	6	28.21	+ 1.565	-2.19
86	α Orionis	5	48	14.568	+3.2478	2.1	6	+.021	+ 7	22	51.77	+ 1.028	+1.34
87	β Aurigæ	5	50	8.362	+4.4018	2.1	6	-.091	+44	55	52.30	+ 0.853	-0.05
88	θ Aurigæ	5	50	59.602	+4.0909	2.1	5	+.013	+37	12	3.20	+ 0.679	+0.55
89	ν Orionis	6	0	15.856	+3.4271	2.1	8	+.007	+14	46	52.41	- 0.043	-0.14
90	22 H. Camelopardi .	6	4	44.254	+6.6200	2.1	10	+.074	+69	21	37.71	- 0.525	+0.92
90	22 H. Camelop. L. C.	6	4	44.137	.....	1.7	3	-.043	.....	.....	.....	.....	.....
91	η Geminorum . . .	6	7	9.080	+3.6224	2.1	8	+.011	+22	32	29.54	- 0.627	+0.74
92	γ Geminorum . . .	6	30	19.060	+3.4670	2.1	6	+.041	+16	30	20.38	- 2.694	-1.21
93	51 H. Cephei . . .	6	39	44.073	+30.3259	2.1	19	-.669	+87	14	16.04	- 3.540	+1.80
93	51 H. Cephei L. C. .	6	39	44.225	.....	1.7	4	-.517	+87	14	15.98	.....	+1.74
94	θ Geminorum . . .	6	44	21.110	+3.9604	2.2	2	+.106	+34	6	....	- 3.886	....
95	15 Lyncis	6	46	11.145	+5.2167	2.2	4	-.040	+58	35	13.10	- 4.165	+1.06
96	ζ Geminorum . . .	6	56	31.002	+3.5634	2.2	6	+.033	+20	45	19.70	- 4.897	-0.57
97	63 Aurigæ	7	2	50.875	+4.1384	2.2	4	-.016	+39	31	35.35	- 5.412	-0.51
98	64 Aurigæ	7	9	7.994	+4.1846	2.2	7	-.017	+41	6	27.76	- 5.939	-0.91
99	λ Geminorum . . .	7	10	44.157	+3.4529	2.2	7	-.002	+16	46	7.33	- 6.130	-0.98

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		<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>			<i>s.</i>	<i>°</i>	<i>'</i>	<i>"</i>	<i>"</i>	<i>"</i>
100	δ Geminorum . .	7	12	28.638	+3.5909	2.2	5	+0.017	+22	12	55.38	— 6.245	—0.89
101	ι Geminorum . .	7	17	46.474	+3.7368	2.2	7	—0.027	+28	2	59.87	— 6.763	—0.54
102	β Canis Minoris .	7	20	12.535	+3.2584	2.2	4	+0.031	+ 8	32	41.58	— 6.927	—0.74
103	ρ Geminorum . .	7	20	52.558	+3.8678	2.2	6	+0.046	+32	2	11.02	— 6.743	+0.20
104	α ¹ Geminorum . .	7	26	25.366	+3.8391	2.2	5	+0.197	+32	9	(58.22)	— 7.461	—1.80
104	α ² Geminorum . .	7	26	25.762	+3.8391	2.2	14	—0.199	+32	9	(58.20)	— 7.461	—1.82
105	α Canis Minoris .	7	32	35.980	+3.1390	2.2	10	+0.008	+ 5	33	4.54	— 8.776	+1.45
106	β Geminorum . .	7	37	28.851	+3.6815	2.2	11	+0.015	+28	19	59.22	— 8.334	+0.40
107	Groom. 1374 . .	7	44	49.530	+7.3161	2.2	6	+0.323	+74	15	18.88	— 8.890	+0.11
108	β Cancrī	8	9	34.342	+3.2592	2.2	5	+0.008	+ 9	34	40.14	—10.790	—0.94
109	ο Ursæ Majoris .	8	19	36.645	+5.0452	2.3	6	+0.011	+61	8	36.00	—11.617	+1.42
110	η Cancrī	8	25	18.246	+3.4796	2.3	5	—0.018	+20	52	26.18	—11.920	—0.40
111	δ Cancrī	8	37	24.522	+3.4199	2.3	6	+0.013	+18	37	21.78	—12.955	—0.60
112	ε Hydræ	8	39	59.793	+3.1843	2.3	3	+0.013	+ 6	53	12.93	—12.912	+0.50
113	57 Cancrī med. .	8	46	25.818	+3.6755	2.3	4	+0.078	+31	3	44.70	—13.336	+0.57
114	ζ Hydræ	8	48	37.580	+3.1783	2.3	4	—0.028	+ 6	25	52.02	—13.466	+0.69
115	ι Ursæ Majoris .	8	50	26.007	+4.1397	2.3	7	—0.003	+48	32	31.69	—13.846	+0.08
116	κ Ursæ Majoris .	8	54	52.522	+4.1246	2.3	4	+0.050	+47	39	38.25	—13.959	+0.63
117	σ ² Ursæ Majoris .	8	59	5.885	+5.3751	2.3	9	+0.088	+67	39	5.99	—14.201	+0.92
117	σ ² Ursæ Majoris L. C.	8	59	5.827	.....	1.8	4	+0.030	+67	39	6.10	.....	+1.03
118	θ Hydræ	9	7	42.223	+3.1265	2.3	7	—0.002	+ 2	51	10.46	—14.970	+0.59
119	38 Lyncis	9	10	52.341	+3.7536	2.3	7	+0.073	+37	20	32.33	—14.925	—1.66
120	83 Cancrī	9	11	50.055	+3.3582	2.3	4	—0.058	+18	14	46.27	—15.029	—1.04
121	40 Lyncis	9	13	15.056	+3.6721	2.3	5	+0.022	+34	55	54.95	—14.980	—0.51
122	1 H. Draconis . .	9	18	38.456	+9.1204	2.3	7	+0.368	+81	53	21.00	—15.291	+1.08
122	1 H. Draconis L. C.	9	18	38.466	.....	1.8	9	+0.378	+81	53	17.14	.....	—2.78
123	α Hydræ	9	21	17.858	+2.9492	2.3	4	+0.031	— 8	6	18.73	—15.396	—0.30
124	α Ursæ Majoris .	9	23	7.366	+5.4331	2.3	7	—0.054	+70	23	26.89	—15.476	+0.02
124	δ Ursæ Majoris L. C.	9	23	7.375	.....	1.8	6	—0.045	+70	23	25.90	.....	—0.97
125	ο Leonis	9	34	19.020	+3.2080	2.3	4	—0.007	+10	28	23.65	—16.172	—0.17
126	ε Leonis	9	38	34.922	+3.4180	2.3	8	+0.013	+24	21	43.51	—16.380	—0.53
127	ν Ursæ Majoris .	9	41	52.065	+4.3289	2.3	4	—0.041	+59	38	20.77	—16.719	+0.96
128	μ Leonis	9	45	28.770	+3.4236	2.3	6	+0.031	+26	36	30.02	—16.752	—0.66
129	Groom. 1586 . .	9	46	53.080	+5.5236	2.3	8	+0.093	+73	29	10.63	—16.807	+0.24
130	η Leonis	10	0	21.073	+3.2791	2.3	7	—0.003	+17	23	8.53	—17.378	—0.06
131	α Leonis	10	1	33.177	+3.2019	2.3	8	—0.003	+12	35	28.80	—17.417	—1.37
132	λ Ursæ Majoris .	10	9	22.048	+3.6444	2.3	5	—0.021	+43	33	7.82	—17.850	—0.10
133	μ Ursæ Majoris .	10	14	41.699	+3.6005	2.3	9	—0.027	+42	8	31.19	—17.969	—0.42
134	31 Leonis Minoris .	10	20	28.485	+3.4913	2.3	8	—0.040	+37	21	43.62	—18.295	+0.16
135	9 H. Draconis . .	10	24	8.876	+5.3066	2.3	10	—0.161	+76	22	16.29	—18.359	+1.02

Number.	Name of Star.	Mean Right Ascension 1872.0.			Annual Variation 1872.0.	Mean Year.	No. of Obs.	Corr. to Cata- logue.	Mean Declination 1872.0.			Annual Variation 1872.0.	Corr. to Cata- logue.
		<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>			<i>s.</i>	<i>°</i>	<i>'</i>	<i>"</i>	<i>"</i>	<i>"</i>
135	9 H. Draconis L. C.	10	24	8.700	.....	1.8	7	-.337	+76	22	15.47	.....	+0.20
136	ρ Leonis	10	26	4.193	+3.1621	2.3	10	+.066	+ 9	57	50.99	-18.403	-0.62
137	42 Leonis Minoris .	10	38	44.538	+3.3533	2.3	10	-.052	+31	21	21.18	-18.853	+1.26
138	ι Leonis	10	42	31.657	+3.1590	2.3	9	-.006	+11	13	17.34	-18.938	-0.74
139	α Ursæ Majoris . .	10	55	48.478	+3.7620	2.3	10	-.078	+62	26	28.56	-19.360	+0.10
140	χ Leonis	10	58	24.810	+3.0971	2.3	7	+.006	+ 8	1	38.59	-19.393	+0.76
141	ψ Ursæ Majoris . .	11	2	27.483	+3.3976	2.3	10	-.010	+45	11	32.23	-19.506	+0.29
142	δ Leonis	11	7	17.899	+3.2023	2.3	9	+.034	+21	13	27.76	-19.677	-0.20
143	ξ Ursæ Majoris med.	11	11	21.018	+3.2135	2.3	10	+.125	+32	14	55.50	-20.189	-0.86
144	σ Leonis	11	14	32.082	+3.0961	2.3	4	-.030	+ 6	43	48.85	-19.669	-0.52
145	λ Draconis	11	23	46.668	+3.6405	2.3	6	-.006	+70	2	15.50	-19.839	+1.91
145	λ Draconis L. C. .	11	23	46.677	.....	1.9	10	+.003	+70	2	15.20	.....	+1.61
146	ν Leonis	11	30	23.710	+3.0707	2.3	7	+.024	- 0	7	3.89	-19.846	-1.23
147	χ Ursæ Majoris . .	11	39	16.928	+3.1973	2.3	5	-.074	+48	29	20.58	-19.976	+0.82
148	β Leonis	11	42	31.743	+3.0655	2.3	7	-.003	+15	17	14.10	-20.097	-0.67
149	β Virginis	11	44	1.646	+3.1247	2.3	5	+.037	+ 2	29	9.06	-20.274	+0.18
150	γ Ursæ Majoris . .	11	47	5.226	+3.1889	2.3	7	-.085	+54	24	23.21	-20.025	+0.68
151	ο Virginis	11	58	41.280	+3.0595	2.3	5	-.021	+ 9	26	37.50	-20.018	-0.48
152	4 H. Draconis . .	12	6	10.399	+2.9064	1.8	8	-.072	+78	19	40.00	-20.034	+0.58
152	4 H. Draconis L. C.	12	6	10.333	.....	1.9	7	-.138	+78	19	41.20	.....	+1.78
153	η Virginis	12	13	21.492	+3.0677	1.3	5	+.068	+ 0	2	39.98	-20.041	-0.87
154	κ Draconis	12	28	0.290	+2.5971	1.4	1	-.064	+70	29	39.40	-19.920	+1.45
154	κ Draconis L. C. .	12	28	0.180	.....	1.9	3	-.174	+70	29	40.13	.....	+2.18
155	γ Virginis pr. . .	12	35	10.488	+3.0380	1.3	5	-.015	- 0	44	49.52	-19.791	+0.80
156	ε Ursæ Majoris . .	12	48	23.430	+2.6616	1.3	5	-.067	+56	39	17.38	-19.651	+0.49
157	12 Canum Ven. seq.	12	50	2.198	+2.8162	1.3	5	+.001	+39	0	36.82	-19.531	+0.64
158	ε Virginis	12	55	48.340	+2.9873	1.3	5	+.068	+11	38	51.24	-19.437	-0.17
159	θ Virginis	13	3	19.460	+3.1000	1.4	5	+.016	- 4	51	18.84	-19.332	-0.05
160	43 Comæ	13	5	53.914	+2.8074	1.4	5	-.007	+28	31	38.90	-18.336	-0.71
161	ζ Ursæ Majoris pr.	13	18	46.015	+2.4325	1.4	2	-.087	+55	35	38.85	-18.936	+0.17
162	ζ Virginis	13	28	10.365	+3.0523	1.4	4	+.057	+ 0	3	32.45	-18.537	-1.11
163	η Ursæ Majoris . .	13	42	29.634	+2.3729	1.4	5	-.073	+49	57	10.95	-18.100	+0.96
164	η Bootis	13	48	35.420	+2.8570	1.5	5	+.036	+19	2	24.92	-18.210	+0.05
165	τ Virginis	13	55	8.067	+3.0486	1.5	4	+.086	+ 2	9	52.43	-17.639	-0.59
166	α Draconis	14	0	55.504	+1.6230	1.5	5	+.024	+64	59	17.82	-17.323	+0.80
167	δ Bootis	14	4	33.700	+2.7391	1.5	5	-.023	+25	41	56.26	-17.218	+0.09
168	α Bootis	14	9	49.398	+2.7338	1.5	5	+.004	+19	50	58.12	-18.889	+0.39
169	θ Bootis	14	20	50.318	+2.0435	1.5	5	-.026	+52	26	35.54	-16.810	+0.82
170	ρ Bootis	14	26	18.816	+2.5881	1.5	4	+.020	+30	56	3.55	-15.951	-0.66
171	γ Bootis	14	26	55.380	+2.4228	1.5	5	-.093	+38	52	9.30	-15.930	+0.86

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		<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>			<i>s.</i>	<i>°</i>	<i>'</i>	<i>"</i>	<i>"</i>	<i>"</i>
172	π Bootis pr. . . .	14	34	42.716	+2.8182	1.5	5	+.087	+16	58	5.84	-15.660	+0.43
173	ζ Bootis med. . . .	14	35	2.260	+2.8631	1.5	4	+.060	+14	16	42.60	-15.650	-0.15
174	109 Virginis	14	39	46.778	+3.0291	1.5	5	+.051	+ 2	25	59.08	-15.395	-1.79
175	Groombridge 2164 . .	14	48	11.652	+1.5159	1.5	5	+.125	+59	48	53.20	-14.724	-0.92
176	β Ursæ Minoris . .	14	51	6.198	-0.2481	1.5	5	+.137	+74	40	42.72	-14.761	+0.58
176	β Ursæ Minoris L. C.	14	51	5.970	.....	2.0	7	-.091	+74	40	43.18	.....	+1.04
177	β Bootis	14	57	7.470	+2.2606	1.5	5	+.010	+40	53	48.28	-14.418	+1.34
178	ψ Bootis	14	58	57.650	+2.5703	1.5	5	-.024	+27	26	51.53	-14.253	-0.55
179	β Libræ	15	10	7.230	+3.2203	1.5	4	-.031	- 8	54	32.85	-13.560	-0.46
180	δ Bootis pr. . . .	15	10	20.537	+2.4210	1.5	4	-.048	+33	47	37.55	-13.629	+0.55
181	γ Ursæ Minoris . .	15	20	56.944	-0.1354	1.5	5	-.185	+72	17	22.34	-12.814	+0.26
181	γ Ursæ Minoris L. C.	15	20	56.960	.....	2.0	5	-.169	+72	17	22.58	.....	+0.50
182	β Coronæ	15	22	33.075	+2.4754	1.5	4	-.069	+29	32	53.03	-12.643	-0.04
183	ν^1 Bootis	15	26	19.900	+2.1529	1.5	5	+.004	+41	16	14.96	-12.450	+0.60
184	ν^2 Bootis	15	27	12.070	+2.1444	1.5	5	+.058	+41	20	6.58	-12.390	+0.84
185	α Coronæ	15	29	16.100	+2.5388	1.5	5	-.023	+27	8	48.22	-12.323	-0.91
186	α Serpentis	15	37	57.855	+2.9504	1.6	4	+.017	+ 6	49	47.60	-11.586	-0.17
187	β Serpentis	15	40	16.840	+2.7672	1.5	5	+.004	+15	49	27.00	-11.544	+0.97
188	μ Serpentis	15	42	56.470	+3.1257	1.6	5	-.052	- 3	2	12.64	-11.320	-0.91
189	ϵ Serpentis	15	44	26.197	+2.9878	1.5	3	-.002	+ 4	51	51.30	-11.106	-1.81
190	ζ Ursæ Minoris . .	15	48	40.714	-2.3029	1.6	5	+.309	+78	11	13.35	-10.888	+0.02
190	ζ Ursæ Minoris L. C.	15	48	40.763	.....	2.1	6	+.358	+78	11	12.95	.....	-0.38
191	γ Serpentis	15	50	32.485	+2.7684	1.6	2	-.028	+16	04	52.25	-12.004	+0.71
192	Groom. 2296	15	54	45.268	+1.4087	1.6	5	+.139	+55	06	43.80	-10.318	+0.48
193	θ Draconis	15	59	29.502	+1.1129	1.6	5	-.018	+58	54	28.52	- 9.736	+1.38
194	δ Ophiuchi	16	7	38.366	+3.1395	1.6	5	+.002	- 3	21	46.74	- 9.592	-0.16
195	ϵ Ophiuchi	16	11	33.028	+3.1683	1.6	5	+.054	- 4	22	42.74	- 9.110	+0.43
196	19 Ursæ Minoris . .	16	14	29.915	-1.8023	1.6	4	-.312	+76	11	55.05	- 8.916	-0.09
197	γ Herculis	16	16	16.430	+2.6437	1.6	2	+.001	+19	27	18.55	- 8.722	-0.10
198	ω Herculis	16	19	30.550	+2.7643	1.6	6	+.108	+14	19	46.12	- 8.544	-1.77
199	η Draconis	16	22	15.673	+0.8057	1.6	3	-.141	+61	48	16.13	- 8.198	+0.10
200	λ Ophiuchi	16	24	27.535	+3.0256	1.6	6	-.048	+ 2	15	55.87	- 8.177	-1.67
201	A. Draconis	16	28	14.573	-0.1487	1.6	2	+.113	+69	2	41.90	- 7.782	+0.26
201	A. Draconis L. C. . .	16	28	14.685	.....	2.1	4	+.225	+69	2	42.58	.....	+0.94
202	ζ Herculis	16	36	27.650	+2.2641	1.6	5	-.068	+31	50	8.85	- 6.736	-0.86
203	η Herculis	16	38	30.538	+2.0559	1.6	5	+.020	+39	10	2.04	- 7.063	+1.10
204	Groom. 2377	16	42	52.240	+1.1332	1.6	5	-.052	+57	0	41.04	- 6.566	+0.85
205	49 Herculis	16	46	15.254	+2.7280	1.6	5	+.039	+15	11	27.00	- 6.334	+0.65
206	κ Ophiuchi	16	51	36.606	+2.8344	1.6	5	+.045	+ 9	34	32.32	- 5.889	-0.57
207	ϵ Herculis	16	55	23.592	+2.2943	1.6	5	+.016	+31	6	57.88	- 5.549	-0.51

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		<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>			<i>s.</i>	<i>°</i>	<i>'</i>	<i>"</i>	<i>"</i>	<i>"</i>
208	ε Ursæ Minoris . .	16	59	9.974	-6.3877	1.6	5	+0.049	+82	14	37.46	-5.279	-0.67
208	ε Ursæ Minoris L. C.	16	59	9.918		2.1	9	-0.007	+82	14	37.22		-0.91
209	Groom. 2415 . .	17	3	36.290	+1.9491	1.6	2	+0.232	+40	41	5.25	-4.899	-0.51
210	α Herculis pr. . .	17	8	48.694	+2.7335	1.6	5	+0.004	+14	32	16.84	-4.393	-0.10
211	π Herculis . . .	17	10	35.380	+2.0887	1.6	5	-0.049	+36	57	17.30	-4.276	-0.30
212	β Draconis . . .	17	27	32.438	+1.3508	1.6	5	-0.020	+52	23	49.76	-2.883	+1.13
213	α Ophiuchi . . .	17	28	59.650	+2.7818	1.6	5	+0.072	+12	39	18.43	-2.908	-0.05
214	ω Draconis . . .	17	37	42.080	-0.3581	1.6	5	-0.031	+68	49	0.98	-1.644	+1.06
214	ω Draconis L. C. .	17	37	42.255	.....	2.2	6	+0.144	+68	49	0.80	.....	+0.88
215	μ Herculis . . .	17	41	26.930	+2.3449	1.7	3	-0.045	+27	47	48.60	-2.348	-0.88
216	ψ Draconis Aust. .	17	44	13.074	-1.0873	1.7	5	+0.013	+72	12	39.42	-1.646	+0.33
216	ψ Draconis Aust. L. C.	17	44	13.182	.....	2.2	5	+0.121	+72	12	39.76	.....	+0.67
217	γ Draconis . . .	17	53	37.970	+1.3938	1.7	4	-0.124	+51	30	17.18	-0.594	+0.50
218	35 Draconis . . .	17	55	10.825	-2.6999	1.7	4	+0.144	+76	58	38.77	-0.187	-1.67
219	σ Herculis . . .	18	2	33.000	+2.3387	1.7	4	+0.030	+28	44	46.73	+0.232	-0.16
220	δ Ursæ Minoris . .	18	13	37.447	-19.4048	1.7	4	-0.090	+86	36	....	+1.210	....
220	δ Ursæ Minoris L. C.	18	13	37.373	.....	2.2	15	-0.164	+86	36	23.94	.....	+0.52
221	η Serpentis . . .	18	14	41.230	+3.1002	1.7	3	+0.038	-2	55	48.47	+0.596	-0.58
222	109 Herculis . . .	18	18	14.598	+2.5545	1.7	5	-0.011	+21	42	47.16	+1.323	+0.08
223	b Draconis . . .	18	22	2.310	+0.8728	1.7	5	+0.015	+58	43	36.65	+1.981	-0.90
224	χ Draconis . . .	18	23	21.790	-1.0778	1.7	3	+0.191	+72	40	35.20	+1.658	-0.93
225	α Lyræ . . .	18	32	36.180	+2.0312	1.7	4	-0.101	+38	39	57.30	+3.132	+0.44
226	110 Herculis . . .	18	40	9.144	+2.5833	1.7	5	-0.123	+20	25	31.25	+3.136	+0.14
227	β Lyræ . . .	18	45	21.207	+2.2114	1.7	4	-0.005	+33	12	55.12	+3.934	-0.36
228	13 R. Lyræ . . .	18	51	26.360	+1.8263	1.7	6	-0.033	+43	46	42.86	+4.540	+0.54
229	ε Aquilæ . . .	18	53	48.782	+2.7214	1.7	6	-0.006	+14	53	45.78	+4.577	+0.01
230	ζ Aquilæ . . .	18	59	31.617	+2.7542	1.8	6	+0.053	+13	40	28.43	+5.043	-1.01
231	ω Aquilæ . . .	19	11	48.490	+2.8154	1.7	3	+0.009	+11	21	58.43	+6.191	+0.20
232	δ Draconis . . .	19	12	31.120	+0.0338	1.8	5	-0.027	+67	26	10.66	+6.298	+0.43
232	δ Draconis L. C. .	19	12	31.280	.....	2.2	4	+0.133	+67	26	10.95	.....	+0.72
233	κ Cygni . . .	19	14	8.527	+1.3849	1.8	7	-0.022	+53	8	0.21	+6.475	+1.83
234	δ Aquilæ . . .	19	19	2.683	+3.0251	1.8	7	+0.039	+2	51	42.59	+6.870	+1.41
235	β Cygni pr. . .	19	25	33.545	+2.4192	1.8	10	-0.034	+27	41	32.36	+7.325	-0.10
236	γ Aquilæ . . .	19	40	10.445	+2.8526	1.8	6	-0.009	+10	18	10.48	+8.493	+0.00
237	δ Sagittæ . . .	19	41	40.803	+2.6795	1.8	7	-0.094	+18	13	11.21	+8.641	-1.35
238	α Aquilæ . . .	19	44	32.237	+2.9286	1.8	6	-0.037	+8	31	54.86	+9.216	-0.04
239	η Aquilæ . . .	19	45	57.132	+3.0581	1.8	6	+0.021	+0	40	43.47	+8.910	+0.41
240	ε Draconis . . .	19	48	35.729	-0.1712	1.8	7	+0.027	+69	56	31.11	+9.146	+1.10
240	ε Draconis L. C. .	19	48	35.773		2.3	3	+0.071	+69	56	31.20		+1.19
241	β Aquilæ . . .	19	49	1.547	+2.9472	1.8	4	+0.017	+6	5	19.25	+8.703	-0.37

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		<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>			<i>s.</i>	<i>°</i>	<i>'</i>	<i>"</i>	<i>"</i>	<i>"</i>
242	λ Ursæ Minoris	19	52	18.263	-59.7049	1.8	9	-.697	+88	55	23.92	+9.463	-0.01
242	λ Ursæ Minoris L. C. . .	19	52	18.148		2.3	11	-.812	+88	55	23.05		-0.88
243	θ Aquilæ	20	4	42.013	+3.0977	1.8	7	+.038	-1	11	58.41	+10.380	-0.32
244	$\times$ Cephei	20	13	9.486	-1.8966	1.8	5	+.258	+77	19	29.57	+11.006	+0.87
244	$\times$ Cephei L. C.	20	13	9.364	.....	2.3	5	+.136	+77	19	28.90	.....	+0.20
245	γ Cygni	20	17	38.049	+2.1532	1.8	9	-.037	+39	50	52.71	+11.349	-0.35
246	ε Delphini	20	27	5.848	+2.8653	1.8	10	+.023	+10	52	10.58	+11.974	+0.19
247	β Delphini	20	31	32.787	+2.8117	1.8	11	+.037	+14	9	3.70	+12.275	-0.50
248	α Delphini	20	33	41.572	+2.7881	1.8	11	-.003	+15	27	42.28	+12.473	-0.48
249	α Cygni	20	37	4.098	+2.0429	1.8	11	-.002	+44	49	24.85	+12.694	-1.02
250	ε Cygni	20	41	1.909	+2.4268	1.8	9	-.049	+33	29	29.77	+13.286	-1.15
251	η Cephei	20	42	40.927	+1.2328	1.8	8	-.062	+61	20	31.09	+13.888	-0.33
252	32 Vulpeculæ	20	49	6.307	+2.5553	1.8	11	+.009	+27	34	18.05	+13.490	-0.52
253	ν Cygni	20	52	24.094	+2.2349	1.8	10	-.023	+40	40	29.61	+13.704	-1.36
254	61 Cygni pr.	21	1	9.634	+2.6805	1.8	10	+.029	+38	7	15.41	+17.474	-0.43
255	ζ Cygni	21	7	29.336	+2.5519	1.8	12	-.079	+29	42	11.06	+14.596	+0.01
256	τ Cygni	21	9	40.940	+2.3945	1.8	10	+.022	+37	29	59.11	+15.213	+0.28
257	α Cephei	21	15	31.313	+1.4373	1.8	12	-.071	+62	2	37.30	+15.119	+0.89
258	β Aquarii	21	24	49.203	+3.1632	1.8	7	+.047	-6	7	58.10	+15.608	+1.34
259	β Cephei	21	27	0.033	+0.7991	1.8	12	+.057	+69	59	56.50	+15.705	+0.86
259	β Cephei L. C.	21	26	59.986	.....	2.3	8	+.010	+69	59	56.81	.....	+1.17
260	ε Pegasi	21	37	53.970	+2.9458	1.8	11	+.033	+9	17	21.54	+16.331	+0.24
261	11 Cephei	21	40	2.255	+0.9058	1.9	4	-.099	+70	43	21.00	+16.510	+1.06
261	11 Cephei L. C.	21	40	2.260	.....	2.4	5	-.094	+70	43	21.46	.....	+1.52
262	π^2 Cygni	21	42	3.931	+2.2099	1.8	10	-.012	+48	43	6.11	+16.514	+2.38
263	16 Pegasi	21	47	14.369	+2.7263	1.9	7	+.058	+25	19	25.71	+16.781	+0.66
264	α Aquarii	21	59	12.553	+3.0832	1.8	12	+.024	-0	56	27.59	+17.332	-0.84
265	ι Pegasi	22	1	3.199	+2.7883	1.8	11	+.042	+24	43	14.30	+17.440	-0.37
266	θ Pegasi	22	3	44.597	+3.0277	1.8	10	+.028	+5	34	9.07	+17.558	+1.16
267	ζ Cephei	22	6	24.902	+2.0729	1.8	12	+.030	+57	34	14.73	+17.632	+0.11
268	θ Aquarii	22	10	4.684	+3.1536	1.8	10	-.063	-8	25	11.78	+17.770	-0.06
269	γ Aquarii	22	15	2.660	+3.1009	1.8	8	+.002	-2	1	53.86	+18.001	-0.57
270	3 Lacertæ	22	18	31.758	+2.3482	1.8	9	+.005	+51	35	17.39	+17.924	-0.31
271	7 Lacertæ	22	26	1.268	+2.4580	1.8	6	+.120	+49	37	30.30	+18.378	+1.20
272	η Aquarii	22	28	46.723	+3.0830	1.9	10	+.057	-0	46	36.29	+18.435	-0.56
273	ζ Pegasi	22	35	4.724	+2.9880	1.9	10	+.059	+10	9	49.43	+18.704	-0.45
274	η Pegasi	22	37	0.243	+2.8053	1.8	12	-.018	+29	33	8.72	+18.730	+0.08
275	13 Lacertæ	22	38	23.131	+2.6636	1.9	9	-.027	+41	8	52.03	+18.808	-0.95
276	λ Pegasi	22	40	22.033	+2.8821	1.8	11	+.030	+22	53	33.27	+18.845	-0.06
277	μ Pegasi	22	43	49.607	+2.8762	1.9	10	-.028	+23	55	34.20	+18.929	+0.29

Number.	Name of Star.	Mean Right Ascension 1872.0.			Annual Variation 1872.0.	Mean Year.	No. of Obs.	Corr. to Cata- logue.	Mean Declination 1872.0.			Annual Variation 1872.0.	Corr. to Cata- logue.
		^{h.}	^{m.}	^{s.}	^{s.}			^{s.}	[°]	[']	["]	["]	["]
278	ι Cephei	22	45	7.681	+2.1163	1.9	7	+.012	+65	31	38.77	+18.855	+0.67
279	λ Aquarii	22	45	56.147	+3.1316	1.8	3	+.049	— 8	15	37.20	+19.054	—0.59
280	σ Andromedæ . .	22	56	2.095	+2.7460	1.9	10	—0.023	+41	38	17.37	+19.251	—0.42
280	α Pegasi	22	58	23.160	+2.9854	1.9	12	—0.007	+14	31	1.32	+19.323	—0.29
281	γ Piscium	23	10	31.836	+3.1074	1.9	8	+.070	+ 2	35	0.69	+19.585	+0.93
282	τ Pegasi	23	14	18.212	+2.9609	1.9	9	—0.011	+23	2	23.68	+19.636	+0.09
283	ν Pegasi	23	18	59.374	+2.9864	1.9	9	+.000	+22	41	58.98	+19.762	+0.52
284	λ Andromedæ . .	23	31	18.265	+2.9157	1.9	10	—0.093	+45	45	51.78	+19.443	—0.51
285	ι Piscium	23	33	22.084	+3.0854	1.9	5	+.050	+ 4	55	58.82	+19.470	+1.52
286	γ Cephei	23	34	6.737	+2.4016	1.9	7	+.079	+76	55	4.20	+20.069	—0.12
286	γ Cephei L. C. . .	23	34	6.767	.....	2.3	6	+.109	+76	55	4.79	.....	+0.47
287	φ Pegasi	23	45	58.669	+3.0440	1.9	9	—0.025	+18	24	33.50	+19.994	—0.43
288	ρ Cassiopeiæ . . .	23	47	59.871	+2.9633	1.9	10	+0.48	+56	47	13.31	+20.016	—0.34
289	ω Piscium	23	52	44.349	+3.0762	1.9	8	+0.45	+ 6	9	17.46	+19.944	+1.05

COLLEGE LOG

RECORD OF THE SECONDARY

RECORD OF THE SECONDARY

RECORD OF THE SECONDARY

CATALOGUE II.

CATALOGUE OF THE SECONDARY STARS

OBSERVED DURING THE YEARS 1871 AND 1872,

WITH THE

MERIDIAN CIRCLE OF HARVARD COLLEGE OBSERVATORY.

Number.	Name of Star.	Mean Right Ascension for 1872.0.			Precession in Right Ascension for 1872.0 + τ .		Proper Motion.	Mean Year.	No. of Observations.
		<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>		
1	35 Piscium	0	8	23.363	+3.0780	+0.68 τ	+0.0074	1.9	3
2	θ Andromedæ	0	10	24.617	+3.1184	+2.66 τ	-0.0020	1.9	3
3	ι Sculptoris	0	15	5.202	+3.0209	-1.35 τ	+0.0018	1.9	5
4	12 Cassiopeiæ	0	17	44.707	+3.2586	+6.35 τ	+0.0020	1.9	6
5	Piazzi 0. 79	0	21	34.726	+2.9872	-1.54 τ	-0.0048	1.9	5
6	Piazzi 0. 130	0	30	46.094	+2.9858	-0.95 τ	+0.0998	1.9	5
7	ξ Cassiopeiæ	0	34	56.035	+3.3113	+4.43 τ	+0.0008	2.0	2
8	β Ceti	0	37	9.925	+2.9980	-0.53 τ	+0.0156	1.9	4
9	ν Andromedæ	0	42	45.725	+3.2820	+3.27 τ	+0.0022	1.9	2
10	α Sculptoris	0	52	26.230	+2.8956	-0.99 τ	-0.0014	1.9	3
11	μ Cassiopeiæ	0	59	46.125	+3.5506	+5.78 τ	+0.3922	2.0	8
12	37 Ceti	1	7	57.229	+3.0119	+0.15 τ	+0.0073	2.0	7
13	ω Andromedæ	1	20	0.356	+3.5242	+4.20 τ	+0.0344	2.0	7
14	A. Cassiopeiæ	1	21	44.317	+4.3264	+14.25 τ	+0.0286	2.0	9
15	Piazzi I. 109	1	27	12.429	+2.6898	-0.93 τ	+0.0005	2.0	7
16	τ Andromedæ	1	33	1.864	+3.5129	+3.61 τ	+0.0056	2.0	7
17	Piazzi I. 170	1	41	6.111	+3.5061	+3.33 τ	+0.0109	2.0	8
18	χ Ceti	1	43	18.000	+2.9545	+0.22 τ	-0.0116	2.0	6
19	ζ Ceti	1	45	8.604	+2.9564	+0.25 τ	+0.0018	2.0	9
20	λ Arietis pr.	1	50	47.971	+3.3345	+2.04 τ	-0.0071	2.0	10
21	ν Ceti	1	53	58.466	+2.8173	-0.11 τ	+0.0111	2.0	5
22	27 Arietis	2	23	48.532	+3.3130	+1.67 τ	+0.0029	2.0	8
23	σ Ceti	2	26	1.281	+2.8459	+0.26 τ	-0.0049	2.0	7
24	τ^1 Eridani	2	39	7.786	+2.7743	+0.22 τ	+0.0233	2.0	8
25	12 Eridani	3	6	38.190	+2.5212	+0.14 τ	+0.0223	2.0	2
26	ζ Eridani	3	9	37.032	+2.9100	+0.56 τ	-0.0008	2.0	5
27	κ Ceti	3	12	38.999	+3.1215	+0.95 τ	+0.0186	2.0	11
28	δ Eridani	3	37	7.101	+2.8758	+0.56 τ	-0.0062	2.0	7
29	τ^7 Eridani	3	42	9.476	+2.5740	+0.32 τ	+0.0027	2.0	5
30	Piazzi III. 183	3	43	52.622	+2.2051	+0.28 τ	+0.0088	2.1	4
31	γ Eridani	3	52	3.564	+2.7910	+0.48 τ	+0.0044	2.0	7
32	λ Persei	3	57	3.362	+4.4405	+4.15 τ	+0.0007	2.1	9
33	Piazzi III. 249	4	0	39.777	+3.4256	+1.31 τ	+0.0044	2.1	3
34	p Tauri	4	3	2.330	+3.6436	+1.71 τ	-0.0008	2.1	8
35	σ^2 Eridani	4	9	22.870	+2.9078	+0.58 τ	-0.1467	2.1	7
36	64 Tauri	4	16	43.101	+3.4423	+1.19 τ	+0.0093	2.1	8
37	ν^3 Eridani	4	19	13.817	+2.2454	+0.34 τ	+0.0057	2.1	7
38	80 Tauri	4	22	50.792	+3.4057	+1.09 τ	+0.0074	2.1	6
39	85 Tauri	4	24	33.178	+3.4118	+1.08 τ	+0.0067	2.1	6
40	ϵ Tauri	4	26	35.170	+3.3902	+1.03 τ	+0.0095	2.1	6

Number.	Name of Star.	Mean Declination for 1872.0.			Precession in Declination for 1872.0 + τ .		Proper Motion.	Mean Year.	No. of Observations.
		$^{\circ}$	$'$	$''$	$''$	$''$	$''$		
1	35 Piscium	+ 8	6	38.27	+20.039	-0.26 τ	-0.001	1.9	3
2	θ Andromedæ . . .	+37	58	15.53	+20.032	-0.30 τ	-0.015	1.9	3
3	ϵ Sculptoris	-29	41	21.02	+20.009	-0.39 τ	-0.019	1.9	5
4	12 Cassiopeiæ . . .	+61	7	16.65	+19.993	-0.46 τ	-0.004	1.9	6
5	Piazzi 0.79	-33	42	50.20	+19.964	-0.51 τ	-0.054	1.9	5
6	Piazzi 0.130	-25	28	18.56	+19.872	-0.68 τ	+0.003	1.9	5
7	ξ Cassiopeiæ	+49	48	35.95	+19.820	-0.83 τ	-0.016	2.0	2
8	β Ceti	-18	41	22.25	+19.790	-0.80 τ	+0.019	1.9	4
9	ν Andromedæ	+40	22	51.80	+19.705	-0.98 τ	-0.020	1.9	2
10	α Sculptoris	-30	2	59.10	+19.531	-1.05 τ	-0.008	1.9	2
11	μ Cassiopeiæ	+54	17	28.51	+19.374	-1.43 τ	-1.571	2.0	7
12	37 Ceti	- 8	36	42.18	+19.178	-1.37 τ	+0.263	2.0	6
13	ω Andromedæ	+44	44	40.54	+18.843	-1.85 τ	-0.114	2.0	7
14	A. Cassiopeiæ	+69	36	17.44	+18.791	-2.29 τ	-0.065	2.0	9
15	Piazzi I. 109	-37	31	24.77	+18.618	-1.55 τ	-0.079	2.0	7
16	τ Andromedæ	+39	55	38.86	+18.423	-2.11 τ	-0.055	2.0	7
17	Piazzi I. 170	+37	18	51.39	+18.133	-2.27 τ	-0.027	2.0	8
18	χ Ceti	-11	19	14.63	+18.050	-1.96 τ	-0.098	2.0	6
19	ζ Ceti	-10	58	7.09	+17.979	-2.00 τ	-0.083	2.0	9
20	λ Arietis pr.	+22	58	13.90	+17.754	-2.35 τ	-0.023	2.0	10
21	ν Ceti	-21	41	57.10	+17.624	-2.05 τ	-0.022	2.0	7
22	27 Arietis	+17	8	9.97	+16.233	-2.91 τ	-0.096	2.0	8
23	σ Ceti	-15	48	28.07	+16.118	-2.55 τ	-0.115	2.0	7
24	τ^1 Eridani	-19	6	57.16	+15.410	-2.66 τ	+0.026	2.0	7
25	12 Eridani	-29	29	32.50	+13.763	-2.74 τ	+0.651	2.0	2
26	ζ Eridani	- 9	17	48.74	+13.572	-3.19 τ	+0.030	2.0	5
27	κ Ceti	+ 2	53	57.51	+13.375	-3.46 τ	+0.049	2.0	11
28	δ Eridani	-10	11	55.89	+11.707	-3.46 τ	+0.724	2.0	7
29	τ^7 Eridani	-24	16	22.40	+11.346	-3.15 τ	+0.034	2.0	5
30	Piazzi III. 183	-38	0	47.55	+11.222	-2.72 τ	+0.047	2.1	2
31	γ Eridani	-13	52	27.73	+10.622	-3.50 τ	-0.116	2.0	6
32	λ Persei	+50	0	3.76	+10.249	-5.61 τ	-0.046	2.1	9
33	Piazzi III. 249	+16	59	43.77	+ 9.976	-4.38 τ	-0.005	2.1	3
34	p Tauri	+26	8	40.92	+ 9.795	-4.68 τ	-0.026	2.1	8
35	σ^2 Eridani	- 7	51	14.00	+ 9.307	-3.80 τ	-3.461	2.1	6
36	64 Tauri	+17	8	42.29	+ 8.734	-4.56 τ	-0.047	2.1	8
37	ν^3 Eridani	-34	18	55.15	+ 8.536	-3.00 τ	+0.090	2.1	6
38	80 Tauri	+15	21	21.56	+ 8.248	-4.57 τ	-0.022	2.1	5
39	85 Tauri	+15	34	27.95	+ 8.112	-4.59 τ	-0.032	2.1	6
40	ρ Tauri	+14	34	22.43	+ 7.949	-4.58 τ	-0.033	2.1	6

Number.	Name of Star.	Mean Right Ascension for 1872.0.			Precession in Right Ascension for 1872.0 + τ .		Proper Motion.	Mean Year.	No. of Observations.
		<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>		
41	53 Eridani	4	32	19.156	+2.7490	+0.44 τ	—0.0012	2.1	7
42	π^3 Orionis	4	42	53.572	+3.2201	+0.73 τ	+0.0339	2.1	6
43	σ^1 Orionis	4	45	17.602	+3.3876	+0.87 τ	+0.0008	2.1	5
44	ν Leporis	5	14	2.755	+2.7818	+0.37 τ	+0.0004	2.1	6
45	m Orionis	5	16	6.455	+3.1495	+0.48 τ	+0.0018	2.2	6
46	ψ Orionis	5	20	7.917	+3.1397	+0.45 τ	+0.0013	2.2	7
47	α Leporis	5	27	5.151	+2.6433	+0.31 τ	+0.0020	2.2	7
48	ζ Leporis	5	41	9.390	+2.7173	+0.28 τ	+0.0002	2.1	6
49	β Columbæ	5	46	26.935	+2.1080	+0.28 τ	+0.0031	2.1	4
50	γ Columbæ	5	53	0.036	+2.1250	+0.27 τ	+0.0016	2.1	5
51	μ Orionis	5	55	20.517	+3.2982	+0.23 τ	+0.0027	2.1	6
52	Piazz V. 327 . .	5	58	6.204	+2.4108	+0.24 τ	+0.0077	2.1	5
53	θ Columbæ	6	3	8.370	+2.0551	+0.25 τ	+0.0023	2.1	6
54	k Orionis seq. . .	6	9	15.384	+3.3624	+0.11 τ	+0.0070	2.1	7
55	β Canis Majoris . .	6	17	3.872	+2.6406	+0.18 τ	+0.0010	2.1	5
56	Piazz VI. 110 . .	6	19	34.717	+2.0804	+0.21 τ	—0.0022	2.1	7
57	ν Geminorum . . .	6	21	21.786	+3.5632	—0.07 τ	+0.0022	2.1	6
58	Piazz VI. 136 . .	6	23	25.482	+2.2238	+0.20 τ	—0.0023	2.1	6
59	13 Monocerotis . . .	6	25	58.997	+3.2441	+0.00 τ	+0.0018	2.1	8
60	Piazz VI. 164 . .	6	27	51.638	+2.2439	+0.19 τ	+0.0005	2.1	4
61	ψ^4 Aurigæ	6	33	45.938	+4.3771	—0.85 τ	—0.0031	2.2	6
62	α Canis Majoris . .	6	39	30.463	+2.6799	+0.12 τ	—0.0356	2.2	7
63	ψ^7 Aurigæ	6	41	42.753	+4.2520	—0.94 τ	—0.0033	2.2	3
64	σ^1 Canis Majoris . .	6	48	49.343	+2.4886	+0.14 τ	+0.0008	2.2	3
65	ϵ Canis Majoris . .	6	53	35.850	+2.3562	+0.15 τ	+0.0018	2.2	4
66	γ Canis Majoris . .	6	57	58.083	+2.7134	+0.07 τ	+0.0021	2.2	6
67	δ Canis Majoris . .	7	3	11.270	+2.4383	+0.13 τ	+0.0007	2.2	6
68	22 Monocerotis . . .	7	5	19.668	+3.0647	—0.14 τ	+0.0009	2.2	9
69	66 Aurigæ	7	15	16.406	+4.1678	—1.67 τ	+0.0009	2.2	8
70	η Canis Majoris . .	7	19	2.004	+2.3719	+0.13 τ	—0.0012	2.2	7
71	6 Canis Minoris . .	7	22	40.255	+3.3432	—0.51 τ	+0.0013	2.2	10
72	σ Geminorum . . .	7	30	48.452	+3.9306	—1.55 τ	—0.0021	2.2	6
73	26 Monocerotis . . .	7	35	7.934	+2.8717	—0.09 τ	—0.0056	2.2	7
74	4 Navis	7	40	3.257	+2.7633	—0.02 τ	+0.0007	2.2	6
75	σ Navis	7	42	45.948	+2.4933	+0.11 τ	+0.0018	2.2	6
76	φ Geminorum . . .	7	45	39.652	+3.6838	—1.29 τ	—0.0016	2.2	5
77	ι Navis	8	2	5.612	+2.5599	+0.11 τ	—0.0044	2.2	4
78	ζ Cancri pr. . . .	8	4	52.144	+3.4432	—1.01 τ	+0.0067	2.3	7
79	20 Navis	8	7	27.005	+2.7582	—0.02 τ	+0.0003	2.3	4
80	ω Navis	8	16	20.670	+2.3617	+0.21 τ	+0.0032	2.3	4

Number.	Name of Star.	Mean Declination for 1872.0.			Precession in Declination for 1872.0 + τ .		Proper Motion.	Mean Year.	No. of Observations.
41	53 Eridani	—14	33	21.97	+ 7.486	—3.76 τ	—0.172	2.1	7
42	π^3 Orionis	+ 6	44	8.96	+ 6.620	—4.46 τ	+0.017	2.1	5
43	σ^1 Orionis	+14	2	6.26	+ 6.421	—4.71 τ	—0.058	2.1	5
44	ν Leporis	—12	26	56.40	+ 3.994	—4.00 τ	+0.001	2.1	5
45	m Orionis	+ 3	25	9.05	+ 3.817	—4.53 τ	—0.002	2.2	6
46	ψ Orionis	+ 2	58	58.03	+ 3.471	—4.53 τ	—0.006	2.2	7
47	α Leporis	—17	54	56.37	+ 2.870	—3.83 τ	—0.002	2.2	6
48	ζ Leporis	—14	52	18.16	+ 1.647	—3.96 τ	—0.001	2.1	5
49	β Columbæ	—35	49	3.80	+ 1.185	—3.07 τ	+0.410	2.1	1
50	γ Columbæ	—35	17	53.40	+ 0.612	—3.10 τ	+0.036	2.1	4
51	μ Orionis	+ 9	38	40.43	+ 0.408	—4.81 τ	—0.065	2.1	6
52	Piazzi V. 327	—26	17	6.72	+ 0.166	—3.52 τ	+0.135	2.1	4
53	θ Columbæ	—37	14	9.64	— 0.275	—2.99 τ	+0.031	2.1	5
54	k Orionis seq.	+12	18	19.09	— 0.809	—4.90 τ	+0.182	2.1	7
55	β Canis Majoris	—17	53	38.22	— 1.492	—3.83 τ	+0.032	2.1	5
56	Piazzi VI. 110	—36	38	30.43	— 1.711	—3.01 τ	+0.064	2.1	7
57	ν Geminorum	+20	17	25.70	— 1.866	—5.17 τ	—0.011	2.1	6
58	Piazzi VI. 136	—32	30	0.15	— 2.046	—3.22 τ	+0.085	2.1	6
59	13 Monocerotis	+ 7	25	27.26	— 2.269	—4.69 τ	—0.016	2.1	8
60	Piazzi VI. 164	—31	56	11.42	— 2.432	—3.24 τ	+0.038	2.1	4
61	ψ^4 Aurigæ	+44	38	39.03	— 2.944	—6.30 τ	—0.039	2.2	6
62	α Canis Majoris	—16	32	32.30	— 3.440	—3.83 τ	—1.209	2.2	6
63	ψ^7 Aurigæ	+41	55	44.23	— 3.629	—6.08 τ	—0.136	2.2	3
64	σ^1 Canis Majoris	—24	1	32.63	— 4.239	—3.53 τ	+0.014	2.2	3
65	ε Canis Majoris	—28	47	57.50	— 4.647	—3.32 τ	—0.008	2.2	4
66	γ Canis Majoris	—15	26	46.37	— 5.018	—3.81 τ	—0.008	2.2	6
67	δ Canis Majoris	—26	11	30.87	— 5.459	—3.39 τ	+0.003	2.2	6
68	22 Monocerotis	— 0	16	59.22	— 5.639	—4.26 τ	+0.006	2.2	9
69	66 Aurigæ	+40	54	57.01	— 6.468	—5.72 τ	—0.028	2.2	8
70	η Canis Majoris	—29	3	17.18	— 6.779	—3.22 τ	+0.005	2.2	7
71	6 Canis Minoris	+12	16	7.25	— 7.081	—4.53 τ	—0.008	2.2	10
72	σ Geminorum	+34	52	30.77	— 7.739	—5.25 τ	—0.105	2.2	6
73	26 Monocerotis	— 9	15	16.49	— 8.087	—3.79 τ	—0.031	2.2	7
74	4 Navis	—14	15	16.03	— 8.479	—3.61 τ	—0.008	2.2	6
75	σ Navis	—25	37	14.50	— 8.693	—3.23 τ	+0.041	2.2	6
76	φ Geminorum	+27	5	41.22	— 8.921	—4.77 τ	—0.029	2.2	5
77	ι Navis	—23	56	12.90	—10.185	—3.17 τ	+0.057	2.2	3
78	ζ Caneri pr.	+18	1	53.84	—10.393	—4.24 τ	—0.104	2.3	7
79	20 Navis	—15	24	15.48	—10.585	—3.36 τ	—0.011	2.3	4
80	w Navis	—32	38	55.22	—11.246	—2.80 τ	—0.017	2.3	4

Number.	Name of Star.	Mean Right Ascension for 1872.0.			Precession in Right Ascension for 1872.0 + τ .		Proper Motion.	Mean Year.	No. of Observations.
		<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>		
81	B. A. C. 2846 . . .	8	22	27.760	+2.5478	+0.17 τ	—0.0039	2.2	7
82	B. A. C. 2887 . . .	8	28	47.970	+4.5286	—5.31 τ	—0.0061	2.3	6
83	δ Hydræ	8	30	52.728	+3.1850	—0.64 τ	—0.0036	2.2	6
84	6 Hydræ	8	33	57.634	+2.8482	—0.08 τ	—0.0053	2.2	5
85	γ Cancrî	8	35	52.567	+3.4895	—1.41 τ	—0.0075	2.3	6
86	ϵ Hydræ	8	41	39.080	+3.1836	—0.67 τ	—0.0011	2.3	5
87	35 Lyncis	8	43	20.890	+4.0546	—3.60 τ	+0.0013	2.3	5
88	κ Cancrî	9	0	48.728	+3.2574	—0.92 τ	—0.0002	2.3	5
89	Piazzi VIII. 265 . .	9	2	25.780	+2.6281	+0.30 τ	+0.0059	2.3	2
90	e Mali	9	4	31.004	+2.5395	+0.39 τ	—0.0020	2.3	5
91	h Mali	9	15	49.670	+2.6537	+0.36 τ	—0.0005	2.3	4
92	42 Lyncis	9	30	21.760	+3.7724	—3.44 τ	—0.0019	2.3	6
93	i Hydræ	9	33	19.090	+3.0632	—0.39 τ	+0.0043	2.3	7
94	ψ Leonis	9	36	45.523	+3.2749	—1.14 τ	+0.0008	2.3	7
95	ϕ Ursæ Majoris . .	9	43	22.895	+4.1296	—6.34 τ	+0.0034	2.3	4
96	B. A. C. 3398 . . .	9	49	38.711	+3.1920	—0.85 τ	—0.0053	2.3	7
97	v^2 Hydræ	9	58	53.513	+2.9223	+0.16 τ	—0.0007	2.3	6
98	λ Hydræ	10	4	20.908	+2.9369	+0.16 τ	—0.0126	2.3	5
99	32 Ursæ Majoris . .	10	8	42.575	+4.4561	—11.54 τ	—0.0147	2.3	8
100	22 Sextantis	10	11	16.210	+2.9913	+0.01 τ	—0.0103	2.3	7
101	γ Leonis pr.	10	12	54.789	+3.2960	—1.47 τ	+0.0218	2.3	8
102	γ Antliæ	10	18	2.610	+2.7520	+0.90 τ	—0.0016	2.3	7
103	α Antliæ	10	21	17.787	+2.7434	+0.98 τ	—0.0070	2.3	3
104	48 Leonis	10	28	7.300	+3.1408	—0.65 τ	—0.0071	2.3	10
105	ϕ Hydræ	10	32	20.814	+2.9260	+0.49 τ	—0.0077	2.3	8
106	Piazzi X. 135 . . .	10	36	0.967	+3.5826	—4.22 τ	—0.0245	2.3	9
107	b^1 Hydræ	10	40	35.893	+2.9355	+0.56 τ	—0.0017	2.3	9
108	ω Ursæ Majoris . .	10	46	36.204	+3.4756	—3.64 τ	+0.0056	2.3	8
109	54 Leonis	10	48	40.729	+3.2657	—1.71 τ	—0.0036	2.3	7
110	Piazzi X. 199 . . .	10	50	45.395	+2.7772	+1.45 τ	+0.0024	2.3	6
111	α Crateris	10	53	32.377	+2.9497	+0.89 τ	—0.0315	2.3	9
112	p^4 Leonis	11	0	22.448	+3.0870	—0.25 τ	—0.0256	2.3	10
113	β Crateris	11	5	21.905	+2.9430	+1.00 τ	+0.0012	2.3	8
114	n Leonis	11	9	10.048	+3.1444	—0.84 τ	+0.0008	2.3	9
115	δ Crateris	11	12	56.547	+3.0027	+0.65 τ	—0.0079	2.3	4
116	λ Crateris	11	17	1.229	+2.9898	+0.88 τ	—0.0217	2.3	7
117	γ Crateris	11	18	29.360	+2.9975	+0.83 τ	—0.0070	2.3	6
118	τ Leonis	11	21	21.278	+3.0850	—0.20 τ	+0.0024	2.3	6
119	ξ Hydræ	11	26	42.534	+2.9541	+1.67 τ	—0.0151	2.3	5
120	B. A. C. 3934 . . .	11	28	16.534	+2.9551	+1.75 τ	—0.0404	2.3	5

Number.	Name of Star.	Mean Declination for 1872.0.			Precession in Declination for 1872.0 + τ .		Proper Motion.	Mean Year.	No. of Observations.
		$^{\circ}$	$'$	$''$	$''$	$''$	$''$		
81	B. A. C. 2846 . . .	-25	42	38.49	-11.678	-2.96 τ	-0.036	2.2	7
82	B. A. C. 2887 . . .	+53	50	41.53	-12.124	-5.20 τ	-0.041	2.3	6
83	δ Hydræ	+ 6	8	55.42	-12.268	-3.61 τ	+0.016	2.2	6
84	6 Hydræ	-12	1	29.88	-12.480	-3.19 τ	-0.026	2.2	5
85	γ Cancrî	+21	55	37.10	-12.611	-3.89 τ	-0.009	2.3	6
86	ρ Hydræ	+ 6	18	30.64	-12.999	-3.47 τ	-0.053	2.3	5
87	35 Lyncis	+44	12	2.33	-13.122	-4.41 τ	+0.023	2.3	3
88	κ Cancrî	+11	10	53.20	-14.230	-3.28 τ	+0.002	2.3	4
89	Piazzi VIII. 265 . .	-25	20	34.90	-14.329	-2.61 τ	-0.006	2.3	2
90	e Mali	-29	50	38.70	-14.456	-2.50 τ	-0.009	2.3	5
91	h Mali	-25	25	19.70	-15.124	-2.47 τ	-0.023	2.3	4
92	42 Lyncis	+40	48	46.33	-15.928	-3.26 τ	-0.008	2.3	6
93	i Hydræ	- 0	33	47.80	-16.084	-2.59 τ	-0.080	2.3	7
94	ψ Leonis	+14	36	20.49	-16.262	-2.71 τ	-0.001	2.3	7
95	ϕ Ursæ Majoris . .	+54	39	39.22	-16.594	-3.30 τ	+0.000	2.3	4
96	B. A. C. 3398 . . .	+ 9	32	17.96	-16.895	-2.43 τ	+0.028	2.3	7
97	v^2 Hydræ	-12	26	44.02	-17.317	-2.06 τ	-0.010	2.3	6
98	λ Hydræ	-11	43	22.90	-17.553	-1.99 τ	-0.113	2.3	5
99	32 Ursæ Majoris . .	+65	44	43.74	-17.735	-2.95 τ	-0.033	2.3	8
100	22 Sextantis	- 7	25	51.73	-17.838	-1.91 τ	-0.017	2.3	7
101	γ Leonis pr.	+20	29	16.19	-17.903	-2.08 τ	-0.142	2.3	8
102	γ Antliæ	-29	0	7.84	-18.101	-1.64 τ	+0.094	2.3	7
103	α Antliæ	-30	25	2.13	-18.221	-1.58 τ	+0.033	2.3	3
104	48 Leonis	+ 7	36	42.15	-18.463	-1.70 τ	+0.047	2.3	10
105	ϕ Hydræ	-16	12	47.39	-18.604	-1.50 τ	+0.029	2.3	8
106	Piazzi X. 135 . . .	+46	52	32.99	-18.721	-1.78 τ	-0.070	2.3	9
107	δ^1 Hydræ	-16	37	22.87	-18.861	-1.36 τ	-0.033	2.3	9
108	ω Ursæ Majoris . .	+43	52	14.27	-19.033	-1.50 τ	-0.034	2.3	8
109	54 Leonis	+25	25	53.65	-19.089	-1.37 τ	+0.010	2.3	6
110	Piazzi X. 199 . . .	-36	27	1.65	-19.144	-1.11 τ	-0.149	2.3	6
111	α Crateris	-17	37	4.21	-19.215	-1.14 τ	+0.128	2.3	8
112	p^4 Leonis	+ 2	38	59.08	-19.378	-1.06 τ	-0.091	2.3	10
113	β Crateris	-22	7	40.71	-19.485	-0.92 τ	-0.128	2.3	8
114	n Leonis	+14	0	17.84	-19.561	-0.91 τ	-0.032	2.3	8
115	δ Crateris	-14	5	11.43	-19.631	-0.80 τ	+0.179	2.3	3
116	λ Crateris	-18	4	37.93	-19.701	-0.72 τ	-0.047	2.3	7
117	γ Crateris	-16	58	54.25	-19.724	-0.69 τ	+0.004	2.3	6
118	τ Leonis	+ 3	33	39.58	-19.768	-0.66 τ	-0.012	2.3	6
119	ξ Hydræ	-31	8	59.08	-19.841	-0.53 τ	-0.034	2.3	4
120	B. A. C. 3934 . . .	-32	9	14.30	-19.861	-0.50 τ	+0.765	2.3	5

OBSERVATIONS MADE WITH THE MERIDIAN CIRCLE AT THE

Number.	Name of Star.	Mean Right Ascension for 1872.0.			Precession in Right Ascension for 1872.0 + τ .		Proper Motion.	Mean Year.	No. of Observations.
		<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>			
121	B. A. C. 3973 . . .	11	36	50.208	+3.1944	-2.87 τ	+0.0025	2.3	5
122	δ Virginis	11	53	23.540	+3.0740	-0.06 τ	+0.0010	2.3	5
123	67 Ursæ Majoris . . .	11	55	36.417	+3.0956	-2.72 τ	-0.0283	2.3	6
124	α Corvi	12	1	48.900	+3.0758	+1.55 τ	+0.0056	1.3	2
125	ϵ Corvi	12	3	32.737	+3.0794	+1.43 τ	-0.0033	1.3	3
126	γ Corvi	12	9	13.633	+3.0873	+1.17 τ	-0.0106	1.3	3
127	12 Comæ	12	16	4.172	+3.0242	-1.14 τ	+0.0006	1.3	5
128	13 Comæ	12	17	53.150	+3.0185	-1.14 τ	+0.0004	1.3	1
129	15 Comæ	12	20	33.360	+3.0047	-1.25 τ	-0.0062	1.3	4
130	δ Corvi	12	23	14.638	+3.1094	+1.20 τ	-0.0100	1.3	4
131	η Corvi	12	25	28.554	+3.1121	+1.19 τ	-0.0307	1.3	5
132	β Corvi	12	27	40.060	+3.1384	+1.65 τ	-0.0029	1.3	3
133	f Virginis	12	30	11.863	+3.0868	+0.64 τ	-0.0014	1.3	3
134	χ Virginis	12	32	38.507	+3.0953	+0.77 τ	-0.0039	1.3	4
135	B. A. C. 4287 . . .	12	39	6.620	+2.8348	-2.16 τ	+0.0003	1.3	4
136	35 Virginis	12	41	20.426	+3.0531	+0.22 τ	+0.0005	1.3	5
137	31 Comæ	12	45	27.740	+3.9296	-0.96 τ	+0.0012	1.3	5
138	36 Comæ	12	52	35.620	+2.9716	-0.39 τ	+0.0005	1.3	5
139	14 Canum Ven.	12	59	45.186	+2.8162	-1.24 τ	+0.0014	1.3	5
140	Piazzì XIII. 27 . .	13	7	54.566	+2.7339	-1.34 τ	-0.0033	1.4	5
141	63 Virginis	13	16	9.977	+3.2050	+1.54 τ	-0.0028	1.4	4
142	α Virginis	13	18	27.090	+3.1542	+1.16 τ	-0.0026	1.4	3
143	70 Virginis	13	22	10.235	+2.9501	-0.06 τ	-0.0156	1.4	4
144	B. A. C. 4513 . . .	13	24	48.077	+2.8477	-0.45 τ	.....	1.4	4
145	25 Canum Ven. . . .	13	31	46.340	+2.6791	-0.85 τ	-0.0060	1.4	4
146	m Virginis	13	34	53.800	+3.1472	+1.09 τ	-0.0064	1.4	4
147	83 Virginis	13	37	35.665	+3.2246	+1.51 τ	+0.0018	1.4	4
148	87 Virginis	13	40	27.883	+3.2467	+1.63 τ	+0.0042	1.4	3
149	h Centauri	13	45	50.920	+3.4333	+2.71 τ	-0.0014	1.4	5
150	9 Bootis	13	50	43.498	+2.7392	-0.35 τ	+0.0034	1.5	5
151	θ Centauri	13	59	9.502	+3.5490	+3.19 τ	-0.0428	1.5	5
152	14 Bootis	14	7	55.892	+2.9003	+0.25 τ	-0.0152	1.5	5
153	λ Virginis	14	12	11.248	+3.2364	+1.42 τ	-0.0001	1.5	5
154	B. A. C. 4757 . . .	14	14	39.952	+3.5747	+3.02 τ	+0.0024	1.5	5
155	2 Libræ	14	16	32.607	+3.2186	+1.34 τ	-0.0007	1.5	4
156	B. A. C. 4797 . . .	14	22	58.444	+2.4875	-0.27 τ	+0.0085	1.5	5
157	5 Ursæ Minoris . . .	14	27	49.410	-0.2172	+12.15 τ	+0.0026	1.5	4
157	5 Ursæ Minoris L. C.	14	27	49.361	.....	.....	.....	2.0	8
158	Piazzì XIV. 135 . .	14	32	13.766	+3.4760	+2.28 τ	+0.0017	1.5	5
159	ϵ Bootis seq. . . .	14	39	23.814	+2.6230	+0.02 τ	-0.0020	1.5	5

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		$^{\circ}$	$'$	$''$	$''$	$''$	$''$		
121	B. A. C. 3973 . . .	+42	25	57.34	-19.950	-0.37 τ	-0.019	2.3	5
122	δ Virginis	+4	22	5.40	-20.044	-0.03 τ	-0.010	2.3	5
123	67 Ursæ Majoris . .	+43	45	19.52	-20.049	+0.01 τ	+0.038	2.3	6
124	α Corvi	-24	0	53.50	-20.052	+0.13 τ	-0.055	1.3	2
125	ϵ Corvi	-21	54	29.03	-20.050	+0.16 τ	+0.008	1.3	3
126	γ Corvi	-16	49	50.53	-20.036	+0.28 τ	+0.029	1.3	3
127	12 Comæ	+26	33	23.48	-20.003	+0.41 τ	-0.002	1.3	5
128	13 Comæ	+26	48	31.20	-19.991	+0.44 τ	-0.018	1.3	1
129	15 Comæ	+28	58	48.03	-19.972	+0.49 τ	-0.091	1.3	4
130	δ Corvi	-15	48	8.40	-19.949	+0.55 τ	-0.143	1.3	4
131	η Corvi	-15	29	11.72	-19.929	+0.60 τ	-0.053	1.3	5
132	β Corvi	-22	41	17.93	-19.907	+0.65 τ	-0.051	1.3	3
133	f Virginis	-5	7	34.20	-19.879	+0.69 τ	-0.025	1.3	3
134	χ Virginis	-7	17	25.55	-19.849	+0.74 τ	-0.028	1.3	4
135	B. A. C. 4287 . . .	+46	8	26.10	-19.761	+0.80 τ	+0.023	1.3	4
136	35 Virginis	+4	16	17.44	-19.727	+0.89 τ	-0.017	1.3	5
137	31 Comæ	+28	14	15.32	-19.663	+0.94 τ	-0.017	1.3	5
138	36 Comæ	+18	5	58.90	-19.527	+1.08 τ	+0.037	1.3	5
139	14 Canum Ven. . . .	+36	29	3.18	-19.375	+1.15 τ	+0.018	1.3	5
140	Piazzi XIII. 27 . .	+40	49	52.62	-19.179	+1.26 τ	+0.016	1.4	5
141	63 Virginis	-17	3	51.45	-18.955	+1.62 τ	-0.049	1.4	4
142	α Virginis	-10	29	33.07	-18.889	+1.64 τ	-0.005	1.4	3
143	70 Virginis	+14	27	48.70	-18.777	+1.60 τ	-0.560	1.4	4
144	B. A. C. 4513 . . .	+24	53	52.90	-18.695	+1.59 τ	.....	1.4	4
145	25 Canum Ven	+36	56	48.60	-18.466	+1.61 τ	+0.023	1.4	4
146	m Virginis	-8	3	23.18	-18.358	+1.93 τ	+0.024	1.4	4
147	83 Virginis	-15	32	3.33	-18.262	+2.00 τ	-0.011	1.4	4
148	87 Virginis	-17	13	5.00	-18.157	+2.10 τ	-0.040	1.4	3
149	h Centauri	-31	17	39.60	-17.952	+2.32 τ	-0.008	1.4	5
150	9 Bootis	+28	7	13.88	-17.757	+1.94 τ	-0.043	1.5	5
151	θ Centauri	-35	44	20.74	-17.403	+2.65 τ	-0.612	1.5	5
152	14 Bootis	+13	33	39.18	-17.009	+2.32 τ	+0.058	1.5	5
153	λ Virginis	-12	46	51.08	-16.808	+2.65 τ	+0.030	1.5	5
154	B. A. C. 4757 . . .	-34	12	1.64	-16.689	+2.97 τ	+0.005	1.5	5
155	2 Libræ	-11	7	40.77	-16.598	+2.71 τ	-0.072	1.5	4
156	B. A. C. 4797 . . .	+36	46	13.58	-16.276	+2.20 τ	-0.035	1.5	5
157	5 Ursæ Minoris . . .	+76	15	54.27	-16.024	-0.12 τ	-0.001	1.5	4
157	5 Ursæ Minoris L. C.	+76	15	54.31	.....	.....	.....	2.0	8
158	Piazzi XIV. 135 . .	-26	10	7.75	-15.789	+3.20 τ	-0.043	1.5	5
159	ϵ Bootis seq. . . .	+27	36	53.42	-15.395	+2.52 τ	+0.017	1.5	5

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		<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>			
160	α^2 Libræ	14	43	48.034	+3.3142	+1.56 τ	—0.0064	1.5	5
161	ξ Bootis	14	45	29.122	+2.7558	+0.23 τ	+0.0115	1.5	5
162	δ Libræ	14	54	8.164	+3.2003	+1.18 τ	—0.0041	1.5	5
163	c Bootis	15	1	40.752	+2.6195	+0.18 τ	+0.0137	1.5	5
164	ι Libræ	15	4	55.710	+3.4092	+1.72 τ	—0.0019	1.5	5
165	B. A. C. 5009	15	6	47.177	+3.6565	+2.53 τ	—0.0022	1.5	4
166	ε Libræ	15	17	15.760	+3.2473	+1.22 τ	—0.0050	1.5	5
167	ψ^1 Lupi	15	31	38.570	+3.7903	+2.58 τ	—0.0007	1.5	2
168	ψ^2 Lupi	15	34	31.975	+3.8053	+2.58 τ	—0.0053	1.5	4
169	λ Libræ	15	45	54.415	+3.4719	+1.53 τ	—0.0003	1.6	2
170	δ Scorpïi	15	52	46.012	+3.5360	+1.60 τ	—0.0004	1.6	4
171	β Scorpïi pr.	15	57	59.812	+3.4779	+1.44 τ	—0.0002	1.6	5
172	κ Herculis	16	2	17.944	+2.7064	+0.43 τ	—0.0037	1.6	5
173	ν Scorpïi seq.	16	4	33.505	+3.4771	+1.37 τ	—0.0001	1.6	4
174	α Scorpïi	16	21	33.705	+3.6677	+1.52 τ	—0.0001	1.6	2
175	τ Scorpïi	16	27	55.010	+3.7238	+1.52 τ	—0.0002	1.6	2
176	ζ Ophiuchi	16	30	6.720	+3.2957	+0.89 τ	+0.0017	1.6	6
177	24 Scorpïi	16	34	10.308	+3.4632	+1.06 τ	—0.0017	1.6	4
178	ι Ophiuchi	16	47	57.115	+2.8382	+0.46 τ	—0.0037	1.6	4
179	η Ophiuchi	17	3	2.280	+3.4320	+0.75 τ	+0.0021	1.6	3
180	B. A. C. 5804	17	6	55.278	+3.9290	+1.16 τ	+0.0032	1.6	5
181	θ Ophiuchi	17	14	8.982	+3.6784	+0.81 τ	—0.0003	1.6	5
182	w Herculis	17	15	52.275	+2.2308	+0.32 τ	+0.0111	1.6	4
183	44 Ophiuchi	17	18	33.294	+3.6581	+0.74 τ	+0.0002	1.6	5
184	v Scorpïi	17	22	3.790	+4.0715	+0.98 τ	—0.0023	1.6	5
185	λ Scorpïi	17	24	55.112	+4.0670	+0.92 τ	—0.0003	1.6	5
186	μ Ophiuchi	17	30	53.260	+3.2580	+0.42 τ	—0.0010	1.6	3
187	58 Ophiuchi	17	35	45.656	+3.5979	+0.48 τ	—0.0070	1.6	5
188	3 Sagittarii	17	39	30.287	+3.7721	+0.49 τ	—0.0019	1.7	4
189	Piazzî XVII. 289	17	47	54.820	+1.9504	+0.29 τ	+0.0011	1.7	4
190	89 Herculis	17	50	15.352	+2.4175	+0.26 τ	+0.0023	1.7	4
191	γ^2 Sagittarii	17	57	35.167	+3.8560	+0.22 τ	—0.0050	1.7	3
192	Piazzî XVII. 359	17	59	58.650	+3.7959	+0.02 τ	—0.0006	1.7	4
193	μ Sagittarii	18	6	6.590	+3.5865	+0.11 τ	—0.0010	1.7	3
194	η Sagittarii	18	8	57.967	+4.0709	—0.04 τ	—0.0111	1.7	4
195	δ Sagittarii	18	12	47.982	+3.8380	—0.05 τ	+0.0026	1.7	4
196	B. A. C. 6318	18	25	56.475	+0.8192	—0.10 τ	+0.0056	1.7	4
197	1 Aquilæ	18	28	14.490	+3.2654	—0.02 τ	—0.0018	1.7	4
198	2 Aquilæ	18	35	15.900	+3.2844	—0.08 τ	+0.0010	1.7	3
199	B. A. C. 6419	18	43	51.415	+1.3389	—0.05 τ	+0.0002	1.7	4

Number.	Name of Star.	Mean Declination for 1872.0.			Precession in Declination for 1872.0 + τ .		Proper Motion.	Mean Year.	No. of Observations.
160	α^2 Libræ	—15	30	31.08	—15.145	+3.24 τ	—0.066	1.5	5
161	ξ Bootis	+19	37	58.60	—15.048	+2.73 τ	—0.083	1.5	5
162	δ Libræ	—8	0	34.52	—14.538	+3.28 τ	—0.002	1.5	5
163	c Bootis	+25	22	7.74	—14.075	+2.79 τ	—0.165	1.5	5
164	ι Libræ	—19	18	21.12	—13.871	+3.66 τ	—0.032	1.5	5
165	B. A. C. 5009	—31	2	21.33	—13.753	+3.95 τ	—0.033	1.5	3
166	ε Libræ	—9	51	37.80	—13.072	+3.65 τ	—0.153	1.5	5
167	ψ^1 Lupi	—33	59	30.40	—12.093	+4.47 τ	—0.041	1.5	2
168	ψ^2 Lupi	—34	17	51.43	—11.890	+4.52 τ	—0.070	1.5	4
169	λ Libræ	—19	46	57.15	—11.075	+4.27 τ	—0.037	1.6	2
170	δ Scorpil	—22	15	19.00	—10.570	+4.43 τ	—0.026	1.6	4
171	β Scorpil pr.	—19	27	11.10	—10.178	+4.42 τ	—0.026	1.6	5
172	κ Herculis	+17	23	21.94	—9.851	+3.48 τ	—0.005	1.6	5
173	ν Scorpil seq.	—19	7	34.43	—9.679	+4.40 τ	—0.016	1.6	4
174	α Scorpil	—26	8	44.50	—8.350	+4.90 τ	—0.027	1.6	2
175	τ Scorpil	—27	56	52.60	—7.842	+5.03 τ	—0.020	1.6	1
176	ζ Ophiuchi	—10	18	20.53	—7.665	+4.48 τ	+0.029	1.6	6
177	24 Scorpil	—17	29	32.20	—7.335	+4.74 τ	+0.009	1.6	4
178	ι Ophiuchi	+10	22	41.18	—6.201	+3.96 τ	—0.023	1.6	4
179	η Ophiuchi	—15	33	51.10	—4.933	+4.87 τ	+0.110	1.6	3
180	B. A. C. 5804	—33	23	52.52	—4.603	+5.60 τ	—0.057	1.6	5
181	θ Ophiuchi	—24	52	9.72	—3.985	+5.28 τ	—0.034	1.6	5
182	w Herculis	+32	38	1.40	—3.837	+3.21 τ	—1.045	1.6	4
183	44 Ophiuchi	—24	3	18.72	—3.607	+5.26 τ	—0.115	1.6	5
184	v Scorpil	—37	11	29.22	—3.304	+5.87 τ	—0.095	1.6	4
185	λ Scorpil	—37	0	28.42	—3.058	+5.88 τ	—0.030	1.6	5
186	μ Ophiuchi	—8	2	19.07	—2.540	+4.73 τ	—0.019	1.6	3
187	58 Ophiuchi	—21	37	6.52	—2.117	+5.23 τ	+0.013	1.6	5
188	3 Sagittarii	—27	46	44.93	—1.791	+5.49 τ	—0.011	1.7	4
189	Piazzi XVII. 289	+40	0	39.10	—1.057	+2.85 τ	+0.046	1.7	4
190	89 Herculis	+26	4	18.70	—0.852	+3.53 τ	+0.024	1.7	4
191	γ^2 Sagittarii	—30	25	20.00	—0.211	+5.62 τ	—0.220	1.7	3
192	Piazzi XVII. 359	—28	28	5.87	—0.002	+5.54 τ	—0.045	1.7	4
193	μ Sagittarii	—21	5	24.70	+0.534	+5.22 τ	—0.014	1.7	3
194	η Sagittarii	—36	47	51.23	+0.784	+5.93 τ	—0.048	1.7	4
195	δ Sagittarii	—29	52	48.67	+1.119	+5.58 τ	—0.043	1.7	3
196	B. A. C. 6318	+59	27	51.95	+2.265	+1.17 τ	+0.016	1.7	4
197	1 Aquilæ	—8	19	52.87	+2.465	+4.71 τ	—0.320	1.7	4
198	2 Aquilæ	—9	10	22.00	+3.073	+4.72 τ	—0.004	1.7	2
199	B. A. C. 6419	+52	50	53.05	+3.814	+1.90 τ	—0.053	1.7	4

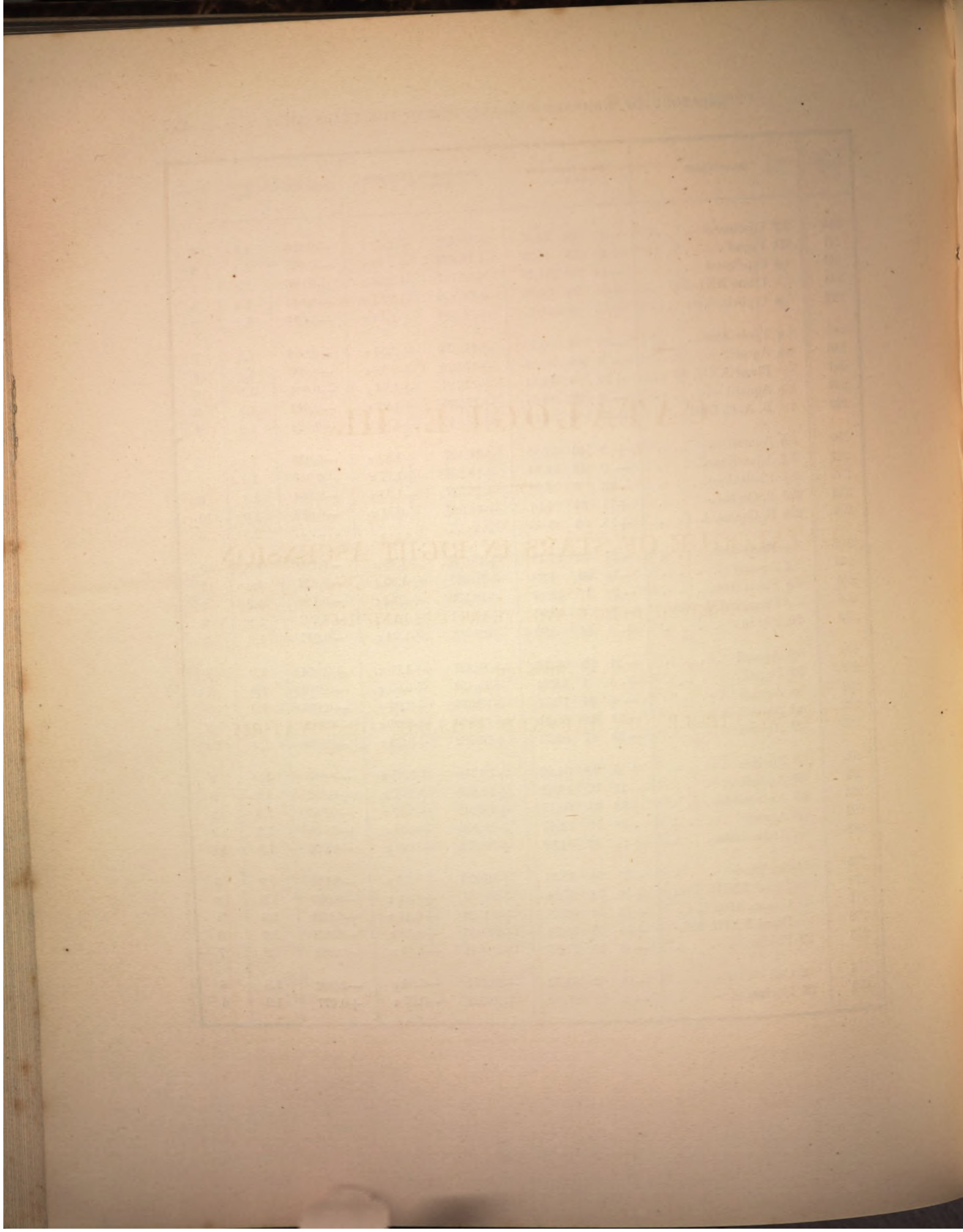
OBSERVATIONS MADE WITH THE MERIDIAN CIRCLE AT THE

Number.	Name of Star.	Mean Right Ascension for 1872.0.			Precession in Right Ascension for 1872.0 + τ .		Proper Motion.	Mean Year.	No. of Observations.
		<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>			
200	σ Sagittarii	18	47	19.642	+3.7221	-0.52 τ	-0.0018	1.7	5
201	δ^1 Lyrae	18	49	15.270	+2.0935	+0.15 τ	+0.0009	1.7	5
202	50 Draconis, L. C. . .	18	50	29.615	-1.8950	-5.38 τ	-0.0088	2.2	4
203	g Aquilae	18	56	10.030	+3.1591	-0.15 τ	+0.0014	1.8	4
204	π Sagittarii	19	2	9.060	+3.5713	-0.56 τ	-0.0008	1.7	5
205	Piazzì XIX. 4 . . .	19	4	49.130	+3.5863	-0.61 τ	+0.0037	1.8	5
206	ψ Sagittarii	19	7	41.475	+3.6804	-0.76 τ	+0.0021	1.8	6
207	d Sagittarii	19	10	8.720	+3.5144	-0.59 τ	-0.0014	1.8	4
208	χ Sagittarii pr. . .	19	17	29.092	+3.6526	-0.86 τ	+0.0029	1.8	4
209	4 Cygni	19	21	32.528	+2.1585	+0.13 τ	+0.0010	1.8	8
210	h^2 Sagittarii	19	28	54.960	+3.6524	-1.19 τ	+0.0045	1.8	4
211	κ Aquilae	19	30	0.317	+3.2295	-0.42 τ	+0.0004	1.8	4
212	ϵ Sagittae	19	31	29.747	+2.7138	+0.02 τ	+0.0016	1.8	7
213	B. A. C. 6737 . . .	19	33	24.477	+0.6466	-1.50 τ	-0.0054	1.8	6
214	β Sagittae	19	35	17.997	+2.6930	+0.03 τ	+0.0015	1.8	6
215	Piazzì XIX. 243 . .	19	37	51.060	+3.8377	-1.50 τ	-0.0028	1.8	5
216	ζ Sagittae	19	43	17.718	+2.6609	+0.04 τ	+0.0036	1.8	6
217	e Draconis	20	0	6.945	+0.6487	-2.05 τ	+0.0017	1.8	6
218	B. A. C. 6924 . . .	20	2	26.880	+1.3671	-0.53 τ	-0.0036	1.8	4
219	20 Vulpeculae . . .	20	6	38.627	+2.5137	+0.14 τ	+0.0008	1.8	7
220	ρ Aquilae	20	8	21.240	+2.7716	-0.03 τ	+0.0045	1.8	7
221	α^1 Capricorni . . .	20	10	33.115	+3.3289	-0.83 τ	-0.0002	1.8	4
222	α^2 Capricorni . . .	20	10	57.067	+3.3294	-0.83 τ	+0.0039	1.8	3
223	β Capricorni	20	13	49.087	+3.3738	-0.94 τ	+0.0017	1.8	3
224	B. A. C. 7008 . . .	20	15	36.869	+2.1725	+0.21 τ	+0.0028	1.8	8
225	π Capricorni	20	19	59.581	+3.4402	-1.14 τ	+0.0003	1.8	9
226	ρ Capricorni	20	21	33.467	+3.4301	-1.13 τ	-0.0019	1.8	7
227	41 Cygni	20	24	9.953	+2.4484	+0.22 τ	+0.0015	1.8	10
228	ζ Delphini	20	29	19.442	+2.8014	-0.03 τ	+0.0030	1.8	9
229	μ Aquarii	20	45	44.970	+3.2381	-0.81 τ	+0.0021	1.8	9
230	12 Year Cat. 1879, L. C.	20	53	19.183	-2.4842	-30.84 τ	+0.0044	2.3	6
231	Piazzì XX. 429 . . .	20	54	24.084	+1.9187	+0.22 τ	+0.0050	1.8	10
232	η Capricorni	20	57	7.136	+3.4262	-1.41 τ	-0.0025	1.8	8
233	γ Equulei	21	4	7.016	+2.9138	-0.11 τ	+0.0055	1.8	9
234	σ Cygni	21	12	23.368	+2.3517	+0.54 τ	+0.0022	1.8	9
235	δ Capricorni	21	21	25.324	+3.4220	-1.61 τ	+0.0104	1.8	5
236	ρ Cygni	21	29	10.019	+2.2526	+0.65 τ	-0.0013	1.8	7
237	ξ Aquarii	21	30	56.197	+3.1910	-0.81 τ	+0.0067	1.9	6
238	γ Capricorni	21	32	59.835	+3.3193	-1.29 τ	+0.0146	1.8	8
239	κ Capricorni	21	35	30.530	+3.3494	-1.43 τ	+0.0089	1.8	8

Number.	Name of Star.	Mean Declination for 1872.0.			Precession in Declination for 1872.0 + τ .		Proper Motion.	Mean Year.	No. of Observations.
		$^{\circ}$	$'$	$''$	$''$	$''$	$''$		
200	σ Sagittarii	-26	27	10.98	+ 4.111	+5.29 τ	-0.091	1.7	5
201	δ^1 Lyrae	+36	48	46.50	+ 4.277	+2.96 τ	-0.005	1.7	4
202	50 Draconis, L. C. . .	+75	16	53.52	+ 4.382	+4.31 τ	+0.083	2.2	4
203	g Aquilae	- 3	52	55.65	+ 4.865	+4.45 τ	+0.027	1.8	4
204	π Sagittarii	-21	13	30.17	+ 5.372	+4.99 τ	-0.030	1.7	4
205	Piazzì XIX. 4 . . .	-21	52	7.28	+ 5.596	+4.99 τ	-0.073	1.8	5
206	ψ Sagittarii	-25	28	29.82	+ 5.837	+5.11 τ	-0.028	1.8	5
207	d Sagittarii	-19	10	43.07	+ 6.042	+4.86 τ	-0.008	1.8	3
208	χ Sagittarii pr. . .	-24	45	18.83	+ 6.651	+4.99 τ	-0.067	1.8	3
209	4 Cygni	+36	3	43.90	+ 6.985	+2.92 τ	+0.015	1.8	8
210	h^2 Sagittarii	-25	9	50.37	+ 7.586	+5.04 τ	-0.022	1.8	4
211	κ Aquilae	- 7	18	36.88	+ 7.674	+4.31 τ	-0.006	1.8	4
212	ε Sagittae	+16	10	33.87	+ 7.794	+3.61 τ	+0.007	1.8	6
213	B. A. C. 6737 . . .	+63	8	59.15	+ 7.948	+0.83 τ	-0.015	1.8	6
214	β Sagittae	+17	10	51.22	+ 8.100	+3.55 τ	-0.028	1.8	6
215	Piazzì XIX. 243 . .	-32	12	53.42	+ 8.304	+5.05 τ	-0.060	1.8	5
216	ζ Sagittae	+18	49	20.56	+ 8.735	+3.45 τ	+0.026	1.8	5
217	e Draconis	+64	27	47.43	+10.035	+0.77 τ	-0.032	1.8	6
218	B. A. C. 6924 . . .	+55	58	20.37	+10.211	+1.67 τ	+0.105	1.8	4
219	20 Vulpeculae . . .	+26	5	53.53	+10.513	+3.07 τ	+0.007	1.8	7
220	ρ Aquilae	+14	48	32.43	+10.653	+3.37 τ	+0.073	1.8	7
221	α^1 Capricorni . . .	-12	54	8.22	+10.815	+4.04 τ	-0.012	1.8	4
222	α^2 Capricorni . . .	-12	56	25.37	+10.844	+4.03 τ	-0.003	1.8	3
223	β Capricorni . . .	-15	11	2.63	+11.055	+4.05 τ	+0.005	1.8	3
224	B. A. C. 7008 . . .	+39	0	3.06	+11.185	+2.57 τ	-0.010	1.8	8
225	π Capricorni . . .	-18	37	46.72	+11.501	+4.05 τ	-0.012	1.8	9
226	ρ Capricorni . . .	-18	14	6.61	+11.613	+4.02 τ	-0.023	1.8	7
227	41 Cygni	+29	56	34.42	+11.798	+2.83 τ	+0.005	1.8	10
228	ζ Delphini	+14	14	2.17	+12.161	+3.19 τ	+0.012	1.8	9
229	μ Aquarii	- 9	27	44.03	+13.271	+3.48 τ	-0.045	1.8	9
230	12 Year Cat. 1879, L. C.	+80	4	15.97	+13.760	-2.71 τ	-0.057	2.3	6
231	Piazzì XX. 429 . .	+49	57	56.71	+13.829	+1.96 τ	+0.006	1.8	9
232	η Capricorni . . .	-20	21	34.31	+14.000	+3.51 τ	-0.055	1.8	8
233	γ Equulei	+ 9	37	2.19	+14.432	+2.88 τ	-0.162	1.8	8
234	σ Cygni	+38	51	32.22	+14.925	+2.22 τ	-0.032	1.8	9
235	b Capricorni . . .	-22	21	48.96	+15.441	+3.11 τ	-0.020	1.8	5
236	ρ Cygni	+45	1	35.47	+15.864	+2.15 τ	-0.095	1.8	7
237	ξ Aquarii	- 8	25	37.15	+15.959	+2.74 τ	-0.038	1.9	6
238	γ Capricorni . . .	-17	14	20.69	+16.067	+2.82 τ	-0.022	1.8	7
239	κ Capricorni . . .	-19	26	54.61	+16.197	+2.80 τ	-0.013	1.8	7

Number.	Name of Star.	Mean Right Ascension for 1872.0.			Precession in Right Ascension for 1872.0 + τ .		Proper Motion.	Mean Year.	No. of Observations.
		<i>h.</i>	<i>m.</i>	<i>s.</i>	<i>s.</i>	<i>s.</i>			
240	δ Capricorni	21	39	58.465	+3.3012	-1.26 τ	+0.0173	1.9	6
241	14 Pegasi	21	44	11.022	+2.6472	+0.64 τ	+0.0021	1.8	9
242	μ Capricorni	21	46	18.971	+3.2567	-1.10 τ	+0.0223	1.8	8
243	Piazzì XXI. 336 . . .	21	48	48.301	+2.0131	+0.80 τ	+0.0024	1.8	8
244	μ Cephei	21	50	35.111	+2.0102	+0.83 τ	+0.0016	1.8	9
245	η Piscis Aust. . . .	21	53	28.817	+3.4608	-2.16 τ	-0.0008	1.8	8
246	σ Aquarii	21	56	41.594	+3.1042	-0.49 τ	+0.0019	1.8	9
247	Piazzì XXII. 36 . . .	22	8	23.184	+2.5630	+1.13 τ	+0.0038	1.8	8
248	ρ Aquarii	22	13	27.757	+3.1602	-0.58 τ	-0.0010	1.8	9
249	B. A. C. 7803	22	16	34.117	+2.5254	+1.34 τ	+0.0016	1.9	8
250	π Aquarii	22	18	44.386	+3.0638	-0.26 τ	+0.0007	1.8	5
251	ζ Aquarii med. . . .	22	22	14.478	+3.0776	-0.32 τ	+0.0121	1.8	10
252	β Piscis Aust. . . .	22	24	13.450	+3.4234	-2.47 τ	+0.0035	1.8	7
253	226 B. Cephei	22	30	1.048	+1.0837	-3.31 τ	-0.0088	1.9	10
253	226 B. Cephei, L. C. .	22	30	1.054	.....	.....	.....	2.3	7
254	ϵ Piscis Aust. . . .	22	33	34.396	+3.3296	-1.96 τ	+0.0008	1.8	10
255	δ Aquarii	22	47	51.344	+3.1937	-1.09 τ	-0.0035	1.9	10
256	α Piscis Aust. . . .	22	50	34.445	+3.3041	-2.09 τ	+0.0247	1.9	8
257	Piazzì XXII. 262 . . .	22	52	35.520	+3.2961	-2.07 τ	+0.0023	1.8	6
258	55 Pegasi	23	0	33.383	+3.0185	+0.31 τ	+0.0007	1.9	9
259	c^2 Aquarii	23	2	37.224	+3.2040	-1.37 τ	+0.0035	1.9	8
260	59 Pegasi	23	5	16.490	+3.0265	+0.31 τ	-0.0001	1.9	7
261	φ Aquarii	23	7	41.580	+3.1068	-0.43 τ	+0.0023	1.9	9
262	ψ^3 Aquarii	23	12	18.182	+3.1213	-0.61 τ	+0.0026	1.9	9
263	b^1 Aquarii	23	16	14.783	+3.1674	-1.22 τ	-0.0087	1.9	10
264	θ Piscium	23	21	28.584	+3.0488	+0.28 τ	-0.0078	1.9	8
265	b^3 Aquarii	23	26	34.609	+3.1481	-1.21 τ	-0.0019	1.9	9
266	15 Andromedæ	23	28	22.057	+2.9192	+2.24 τ	-0.0002	1.9	9
267	i^1 Aquarii	23	37	33.679	+3.1160	-0.97 τ	+0.0016	1.9	9
268	ψ Andromedæ	23	39	41.789	+2.9498	+2.90 τ	+0.0011	1.9	10
269	δ Sculptoris	23	42	15.366	+3.1279	-1.60 τ	+0.0062	1.9	7
270	Piazzì XXIII. 204 . .	23	43	59.100	+2.9562	+3.51 τ	-0.0131	1.9	8
271	Groom. 4163 L. C. . .	23	48	37.720	+2.8444	+8.76 τ	+0.0056	2.3	5
272	Piazzì XXIII. 237 . .	23	50	41.952	+2.9937	+4.20 τ	-0.0011	1.9	8
273	30 Piscium	23	55	23.696	+3.0742	-0.17 τ	+0.0036	1.9	7
274	2 Ceti	23	57	10.932	+3.0764	-0.79 τ	+0.0008	1.9	6
275	33 Piscium	23	58	47.012	+3.0719	-0.14 τ	-0.0003	1.9	6

Number.	Name of Star.	Mean Declination for 1872.0.			Precession in Declination for 1872.0 + τ .		Proper Motion.	Mean Year.	No. of Observations.
240	δ Capricorni . . .	—16	42	24.97	+16.425	+2.68 τ	—0.293	1.9	6
241	14 Pegasi	+29	34	45.30	+16.633	+2.08 τ	—0.015	1.8	9
242	μ Capricorni . . .	—14	9	11.16	+16.737	+2.53 τ	+0.006	1.8	8
243	Piazzi XXI. 336 .	+55	36	35.04	+16.856	+1.51 τ	—0.043	1.8	8
244	μ Cephei	+56	0	20.27	+16.940	+1.49 τ	—0.014	1.8	9
245	η Piscis Aust. . . .	—29	4	0.40	+17.074	+2.56 τ	—0.006	1.8	7
246	σ Aquarii	—2	46	20.84	+17.220	+2.46 τ	—0.006	1.8	8
247	Piazzi XXII. 36 .	+39	4	49.51	+17.721	+1.66 τ	—0.004	1.8	8
248	ρ Aquarii	—8	27	48.47	+17.925	+1.98 τ	—0.014	1.8	9
249	B. A. C. 7803 . .	+43	6	2.91	+18.045	+1.52 τ	—0.021	1.9	8
250	π Aquarii	+0	43	42.88	+18.127	+1.82 τ	—0.015	1.8	5
251	ζ Aquarii med. . .	—0	40	26.84	+18.256	+1.77 τ	+0.037	1.8	10
252	β Piscis Aust. . . .	—33	0	4.93	+18.327	+1.94 τ	—0.034	1.8	6
253	226 B. Cephei . . .	+75	34	0.51	+18.527	+0.51 τ	—0.038	1.9	10
253	226 B. Cephei, L. C. .	+75	34	1.45	.....	.....	.....	2.3	6
254	ϵ Piscis Aust. . . .	—27	42	37.48	+18.644	+1.70 τ	—0.009	1.8	9
255	δ Aquarii	—16	30	4.20	+19.067	+1.35 τ	—0.023	1.9	10
256	α Piscis Aust. . . .	—30	17	59.01	+19.139	+1.34 τ	—0.180	1.9	8
257	Piazzi XXII. 262 .	—30	8	49.97	+19.191	+1.30 τ	+0.097	1.8	6
258	55 Pegasi	+8	43	5.90	+19.382	+1.04 τ	—0.017	1.9	9
259	c^2 Aquarii	—21	52	0.70	+19.427	+1.06 τ	+0.014	1.9	7
260	59 Pegasi	+8	1	31.34	+19.484	+0.95 τ	—0.010	1.9	7
261	φ Aquarii	—6	44	19.71	+19.533	+0.93 τ	—0.193	1.9	9
262	ψ^3 Aquarii	—10	18	38.51	+19.620	+0.84 τ	—0.005	1.9	8
263	b^1 Aquarii	—20	47	56.33	+19.688	+0.78 τ	—0.096	1.9	10
264	θ Piscium	+5	40	34.52	+19.770	+0.65 τ	—0.035	1.9	8
265	b^3 Aquarii	—21	37	18.02	+19.840	+0.57 τ	+0.012	1.9	9
266	15 Andromedæ . . .	+39	31	50.15	+19.862	+0.49 τ	—0.046	1.9	8
267	ι^1 Aquarii	—18	59	13.67	+19.956	+0.35 τ	—0.005	1.9	9
268	ψ Andromedæ . . .	+45	42	34.09	+19.974	+0.28 τ	—0.022	1.9	10
269	δ Sculptoris	—28	50	15.30	+19.992	+0.26 τ	—0.142	1.9	5
270	Piazzi XXIII. 204 .	+50	54	37.69	+20.004	+0.21 τ	—0.036	1.9	8
271	Groom. 4163 L. C.	+73	41	52.30	+20.028	+0.14 τ	—0.039	2.3	5
272	Piazzi XXIII. 237 .	+54	59	36.71	+20.036	+0.08 τ	—0.028	1.9	8
273	30 Piscium	—6	43	31.87	+20.048	—0.01 τ	—0.039	1.9	7
274	2 Ceti	—18	2	54.72	+20.051	—0.04 τ	—0.002	1.9	6
275	33 Piscium	—6	25	25.90	+20.052	—0.07 τ	+0.077	1.9	6



CATALOGUE III.

CATALOGUE OF STARS IN RIGHT ASCENSION

OBSERVED DURING THE YEARS 1867 AND 1868,

WITH THE

TRANSIT CIRCLE OF HARVARD COLLEGE OBSERVATORY.

OBSERVATIONS OF TRANSITS REDUCED TO 1868.0.

Object.	Mean α 1868.0.	Separate Results.					δ	Object.	Mean α 1868.0.	Separate Results.					δ
	h. m. s.	s.	s.	s.	s.	s.	$^{\circ}$		h. m. s.	s.	s.	s.	s.	s.	$^{\circ}$
τ_1 Eridani,	2 38 56.50	.53	.47	.50	.60	.42	-19.1	ψ Tauri,	3 58 50.99	.93	.84	.37	.99	.83	+28.6
41 Arietis,	41 13.13	.51	...	...	...	...		ω_1 Tauri,	4 1 28.65	.02	.02	.15	.77	...	
τ Persei,	44 54.82	.06	.16	.12	.13	.98	+26.7	μ Persei,	5 12.68	.69	.57	.87	.59	.63	+19.2
η Eridani,	49 58.81	.23	.13	.34	.01	...		α_2 Eridani,	9 11.79	.54	.69	...	...	...	
θ Eridani,	53 15.18	.78	.94	.87	.73	.78	+52.2	γ Tauri,	12 17.00	.44	.78	.56	.59	.84	+48.1
α Ceti,	55 22.90	.90	.82	.71	...	...		δ_1 Tauri,	15 19.32	.89	...	...	...	...	
β Persei,	59 35.26	.73	.85	.87	.77	.73	- 9.4	δ_2 Tauri,	16 29.27	.78	.81	.66	.82	.77	- 7.8
δ Arietis,	3 4 5.00	.81	.93	...	...	...		δ_3 Tauri,	17 51.29	.76	.90	...	...	...	
ζ Arietis,	7 19.03	.12	.24	.22	.19	.12	-40.8	ϵ Tauri,	26 21.55	.04	.98	.02	.01	.03	+15.3
ζ Eridani,	9 25.39	.79	.82	.04	.01	.85	+ 3.6	α Tauri,	28 20.88	.98	.86	.96	.98	.99	
κ_1 Ceti,	12 26.41	.84	.95	.86	.90	.95		v_7 Eridani,	30 25.20	.09	.03	...	...	...	
α Persei,	14 54.65	.86	...	...	...	...		53 Eridani,	32 8.17	.53	.33	.47	.32	.27	+17.2
α Tauri,	17 42.73	.37	.28	.21	.27	.34	+40.5	τ Tauri,	34 19.37	.06	.26	...	...	...	
ξ Tauri,	20 1.11	.11	.19	.27	.30	.60	+19.2	α Coeli,	36 18.65	.39	.32	.12	.23	.28	+17.1
f Tauri,	23 35.29	.12	.05	.11	.90	.96	+20.5	β Coeli,	37 23.60	.40	.27	.18	.33	.29	+17.6
ϵ Eridani,	26 42.73	.87	...	...	...	...		μ Eridani,	38 54.16	.63	.52	.32	.46	.28	+14.6
10 Tauri,	30 8.32	.06	.96	.03	.07	.10	+20.5	π_1 Orionis,	42 40.51	.48	.77	.66	.79	...	
δ Eridani,	36 55.61	.94	.89	.93	.02	.05		α_1 Orionis,	45 3.98	.86	.88	.89	.87	.83	+16.3
η Tauri,	39 38.52	.10	.29	.16	...	...	- 9.3	ω Eridani,	46 24.50	.87	.90	.80	.00	.87	
τ_1 Eridani,	41 59.08	.36	.37	.42	.35	.39		ϵ Aurigæ,	48 23.97	.90	.94	...	...	...	
ζ Persei,	45 50.34	.38	.64	.15	.38	.31		ζ Aurigæ,	53 15.24	.04	.03	.28	.37	.29	-30.8
ϵ Persei,	49 1.18	.57	...	...	...	...	+ 2.8	ϵ Tauri,	55 12.37	.14	.97	.91	.07	.41	-14.6
γ_1 Eridani,	51 52.36	.40	.38	.35	.42	.46	+ 49.4	11 Orionis,	57 1.71	.17	.31	.35	...	...	
λ Tauri,	53 22.19	.45	.40	.39	...	...	+49.4	ϵ Leporis,	59 52.40	.54	.40	.08	.09	.35	+22.7
λ Persei,	56 45.69	.97	.53	.63	.72	.61		β Eridani,	5 1 21.68	.43	.67	...	...	...	

OBSERVATIONS OF TRANSITS REDUCED TO 1868.0.

Object.	Mean α 1868.0.	Separate Results.					δ	Object.	Mean α 1868.0.	Separate Results.					δ
	h. m. s.	s.	s.	s.	s.	s.	°		h. m. s.	s.	s.	s.	s.	s.	°
μ Aurigæ,	5 4 23.86	.03	.85	.54	.76	.96	+38.3	μ Orionis,	5 55 7.35	.29	.30	.35	.35	.38	+ 9.6
α Aurigæ,	6 56.45	.55	.34	.57	.37	.36	+45.9	χ_1 Orionis,	56 4.91	.01	.86	.90	.95	.88	+20.1
β Orionis,	8 11.67	.60	.50	.75	.60	.67	- 8.3	B. A. C. 1946,	57 56.52	.45	.44	.45	.45	.62	-26.3
λ Aurigæ,	9 51.52	.42	.51	.33	.71	.47	+40.0	ν Orionis,	6 0 2.16	.20	.23	.10	.12	.15	+14.8
τ Orionis,	11 11.91	.96	.68	.02	.85	.99	- 7.0	θ Columbæ,	3 0.24	.06	.22	.45	.44	.05	-37.2
$\circ$ Columbæ,	12 43.57	.39	.64	.54	.67	.62	-35.0	ξ Orionis,	4 26.18	.16	.26	.19	.16	.20	+14.2
ν Leporis,	13 51.62	.31	.72	.73	.77	.57	-12.4	η Geminorum,	6 54.58	.54	.60	.44	.71	.64	+22.5
$\circ$ Orionis,	15 1.58	.33	.51	.70	.73	.65	- 0.5	k_2 Orionis,	9 1.96	.95	.96	.87	.94	.00	+12.3
m Orionis,	15 53.88	.87	.92	.81	.91	.84	+ 3.4	κ Columbæ,	11 51.51	.56	.42	.43	.52	.67	-35.1
β Tauri,	17 56.90	.89	.86	.95	.89	.70	+28.5	μ Geminorum,	14 58.46	.39	.45	.48	.46	.45	+22.6
ϕ Aurigæ,	18 53.77	.38	.84	.09	...	...	+34.4	β Can. Maj.,	16 53.23	.03	.10	.23	.23	.48	-17.9
ψ_2 Orionis,	19 55.45	.45	.37	.46	.29	.41	+ 3.0	B. A. C. 2079,	19 26.49	.25	.37	.74	.42	.77	-36.6
β Leporis,	22 35.33	.32	.28	.42	.29	.36	-20.9	ν Geminorum,	21 7.60	.52	.61	.68	.43	.72	+20.3
χ Aurigæ,	24 8.40	.13	.55	.41	...	...	+32.1	B. A. C. 2109,	23 16.68	.55	.77	.40	.84	.64	-32.5
δ Orionis,	25 15.86	.93	.89	.90	.96	.71	- 0.4	13 Monocerotis,	25 46.05	.01	.06	.85	.17	.97	+ 7.4
α Leporis,	26 54.64	.79	.48	.67	.73	.68	-17.9	B. A. C. 2147,	27 42.66	.43	.50	.56	.69	.78	-31.9
λ Orionis,	27 52.19	.18	.17	.08	.19	.20	+ 9.8	γ Geminorum,	28 5.14	.24	.09	.18	.07	.12	+16.5
ϵ Orionis,	29 31.01	.01	.92	.91	.01	.04	-1.3	55 Aurigæ,	33 27.55	.49	.47	.50	.73	.53	+44.6
σ Orionis,	32 7.34	.49	.31	.41	.17	.30	- 2.7	ϵ Geminorum,	35 48.57	.59	.59	.45	.64	.54	+25.3
ζ Orionis,	34 6.02	.19	.33	.99	.01	.99	- 2.0	ξ Geminorum,	37 52.84	.82	.85	.84	.83	.85	+13.0
α Columbæ,	34 52.28	.34	.28	.11	.39	.27	-34.1	α Can. Maj.,	39 19.74	.74	.78	.82	.71	.61	-16.5
γ Leporis,	38 57.72	.73	.87	.51	.66	.82	-22.5	58 Aurigæ,	41 25.91	.93	.98	.03	.82	.86	+41.9
ζ Leporis,	40 58.61	.64	.79	.54	.63	.57	-14.9	θ Geminorum,	44 5.20	.20	.23	.58	.15	.22	+34.1
ν Aurigæ,	42 20.55	.39	.74	.44	.56	.55	+39.1	B. A. C. 2252,	46 4.44	.54	.42	.53	.32	...	-34.2
ξ Aurigæ,	43 47.17	.27	.14	.09	...	...	+55.7	$\circ_1$ Can. Maj.,	48 39.38	.36	.37	.37	.46	.34	-24.0
β Columbæ,	46 18.57	.58	.62	.40	.66	...	-35.8	ι Can. Maj.,	50 15.09	.09	.15	.06	.07	...	-16.9
α Orionis,	48 1.52	.55	.71	.35	.57	.64	+ 7.4	ϵ Can. Maj.,	53 26.37	.42	.32	.22	.33	.50	-28.8
β Aurigæ,	49 50.70	.61	.74	.57	.67	.79	+44.9	ζ Geminorum,	56 16.70	.73	.70	.63	.77	.69	+20.8
θ Aurigæ,	50 43.22	.16	.23	.36	.14	...	+37.2	γ Can. Maj.,	57 47.32	.11	.39	.21	.55	.35	-15.4
γ Columbæ,	52 51.56	.51	.40	.55	.45	.72	-35.3	45 Geminorum,	7 0 47.81	.81	.77	.82	.95	.71	+16.1

OBSERVATIONS OF TRANSITS REDUCED TO 1868.0.

Object.	Mean α 1868.0.	Separate Results.					δ	Object.	Mean α 1868.0.	Separate Results.					δ
	h. m. s.	s.	s.	s.	s.	s.	°		h. m. s.	s.	s.	s.	s.	s.	°
δ Can. Maj.,	7 3 1.51	.43	.47	.55	.61	.57	-26.2	15 Argus,	8 1 55.37	.25	.40	.42	.38	.48	-23.9
22 Monocerotis,	5 7.51	.52	.53	.43	...	...	- 0.3			.53	.37	.39	.33	.30	
64 Aurigæ,	8 30.21	.42	...	...	...	...		16 Puppis,	3 8.11	.25	...	...	...	...	
λ Geminorum,	10 0.37	.15	.27	.12	.52	.31	+41.1	ζ Cancri,	4 38.45	.29	.01	.05	.11	.96	-18.9
δ Geminorum,	12 14.28	.18	...	...	...	...		B. A. C. 2758,	6 9.07	.21	.11	...	...	...	
66 Aurigæ,	15 14.74	.26	.29	.40	.54	.34	+16.8	20 Puppis,	7 16.03	.47	.40	.48	.39	.47	+18.1
ι Geminorum,	17 31.53	.25	.16	.37	.27	.33	+22.2	β Cancri,	9 21.33	.48	.46	...	...	...	
η Can. Maj.,	18 52.51	.68	.74	.82	.78	.73	+40.9	χ Cancri,	12 2.52	.10	.19	.05	.18	.10	-36.9
β Can. Min.,	19 59.57	.66	...	...	...	...		γ Puppis,	13 7.04	...	.86	...	...	...	
6 Can. Min.,	22 26.95	.66	...	...	...	...		w Puppis,	16 11.16	.07	.93	.04	.01	.14	-15.4
α_1 Geminorum,	26 10.19	.67	.59	.53	.33	.51	+28.1	B. A. C. 2825,	19 3.90	.01	.98	...	...	...	
α_2 Geminorum,	26 10.34	.56	...	...	...	...		B. A. C. 2846,	22 17.55	.39	.36	.33	.19	.38	+ 9.6
Lal. 14810.	28 24.30	.57	.59	.61	.40	.49	-29.0	θ Cancri,	24 4.05	.32	.36	...	...	...	
$\circ$ Geminorum,	30 32.71	.38	...	...	...	...		η Cancri,	25 4.34	.69	.53	.46	.48	.53	+27.6
α Can. Min.,	32 23.45	.62	.71	.59	.50	.48	+ 8.5	B. A. C. 2887,	28 29.83	.47	.46	...	...	...	
γ Monocerotis,	34 56.54	.52	...	...	...	...		δ Hydræ,	30 39.98	.13	.05	.01	.99	...	-36.3
β Geminorum,	37 14.05	.62	.71	.59	.50	.48	+ 8.5	6 Hydræ,	31 51.39	.16	.18	.19	.11	.18	-32.6
4 Puppis,	39 52.31	.62	.71	.59	.50	.48	+ 8.5	σ Hydræ,	33 46.23	.14	.17	...	...	...	
$\circ$ Puppis,	42 36.08	.02	.91	.11	.90	.81	+12.3	γ Cancri,	35 38.61	.83	.91	.03	.85	.87	- 3.5
ξ Argus,	43 44.74	.23	.20	.16	.14	.16	+32.2	δ Cancri,	37 10.80	.01	.80	...	...	...	
ϕ Geminorum,	45 24.93	.27	...	...	...	...		α Mali,	38 17.33	.62	.75	.50	.51	.53	-25.7
B. A. C. 2629,	47 19.97	.66	.78	.70	.81	.69	+34.9	ϵ Hydræ,	39 47.04	.42	...	...	...	...	
1 Cancri,	49 29.71	.66	.74	.63	...	...		ρ Hydræ,	41 26.43	.99	.93	.07	.12	.02	+18.5
14 Can. Min.,	51 30.02	.47	.42	.39	.63	.39	+ 5.7	35 Lyncis,	43 4.61	.02	.22	...	...	...	
ω_1 Cancri,	52 56.46	.40	.41	.53	.37	.49		σ^2 Cancri,	46 11.10	.29	.40	...	...	...	
6 Cancri,	55 24.44	.50	...	...	...	...		ζ Hydræ,	48 24.89	.10	.80	.87	.56	.81	+53.9
μ_1 Cancri,	58 28.93	.63	.40	.77	.43	.49	- 9.3	ι Urs. Maj.	50 9.36	.04	.02	.98	.94	.00	+ 6.2
μ_2 Cancri,	8 0 59.57	.53	.54	...	...	...		B. A. C. 3059,	52 3.63	.88	...	...	...	...	
		.17	.13	.93	.09	.90	+28.3	κ Urs. Maj.,	54 36.08	.56	.48	.34	.36	.21	+ 3.6
		.10	.98	.08	...	...		B. A. C. 3097,	58 7.42	.47	.25	.18	.17	.20	-12.0
		.31	.25	.41	.51	.21	-14.3			.12	...	...	...	...	
		.35	.16	...	...	...				.60	.55	.62	.66	.60	+21.9
		.25	.05	.14	.10	.08	-25.6			.75	.83	.81	.87	.73	+18.6
		.97	.97	...	...	...				.44	.46	.33	.21	.28	-32.7
		.78	.64	.75	.72	.79	-24.5			.30	.29	...	...	...	
		.93	.85	.98	.94	.96	+27.1			.99	.14	.03	.97	.03	+ 6.1
		.00	.88	.91	...	...				.02	.91	.08	.18	...	
		.12	.94	.99	.85	.06	-34.4			.54	.42	.36	.42	.40	+ 6.3
		.87	.95	...	...	...				.09	...	...	...	...	
		.69	.76	.71	.78	.61	+16.1			.69	.46	.67	.70	.63	+44.2
		.70	...	...	...	...				.54	...	...	...	...	
		.14	.97	.98	.10	.98	+ 2.6			.32	.09	.98	.06	.07	+31.1
		.07	.02	.00	.95	...				.07	...	...	...	...	
		.44	.41	.39	.58	.54	+25.8			.05	.95	.79	.88	.91	+ 6.4
		.49	.38	...	...	...				.91	.72	...	...	...	
		.43	.51	.32	.49	.45	+28.2			.03	.29	.41	.36	.39	+48.5
		.49	.38	...	...	...				.30	.42	...	...	...	
		.11	.87	.03	.85	.93	+23.0			.77	.62	.60	.63	.48	+42.3
		.77	...	...	...	...				.66	...	...	...	...	
		.67	.55	.55	.46	.59	+22.0			.14	.11	.96	.10	.10	+47.7
		.47	.67	...	...	...				.32	.46	.38	.51	.42	+39.0
										.42	...	...	...	...	

OBSERVATIONS OF TRANSITS REDUCED TO 1868.0.																
Object.	Mean α 1868.0.	Separate Results.					δ	Object.	Mean α 1868.0.	Separate Results.					δ	
	h. m. s.	s.	s.	s.	s.	s.	$^{\circ}$		h. m. s.	s.	s.	s.	s.	s.	$^{\circ}$	
κ Cancr.,	9 0 35.70	.78	.81	.70	.66	.66	+11.2	α Leonis,	10 1 20.41	.47	.46	.40	.31	.39	+12.6	
B. A. C. 3121,	2 15.32	.68	.66	.72	.68	.68		λ Hydræ,	4 9.18	.25	.19	.99	.11	.20	-11.7	
ϵ Mali,	4 20.83	.39	.35	.29	.19	.32	-25.3	B. A. C. 3489,	7 15.02	.29	.22	...	...	...		
θ Hydræ,	7 29.71	.39	.33	...	...	...		λ Urs. Maj.,	9 7.59	.00	.54	.91	.99	.19	-26.4	
38 Lyncis,	10 37.21	.74	.74	...	...	...		22 Sextantis,	11 4.23	.97	...	...	...	...		
α Lyncis,	13 0.37	.59	.84	.63	.75	.84	+ 2.9	γ_1 Leonis,	12 41.56	.57	.47	.57	.57	.79	+43.6	
h Mali,	15 39.04	.59	.73	.73	...	...		μ Urs. Maj.,	14 27.42	.24	.18	.30	.26	.18	- 7.4	
B. A. C. 3207,	17 29.46	.25	.07	.06	.30	.32	+37.4	γ Antliæ,	17 51.48	.43	.52	.54	.48	.63	+20.5	
Δ Hydræ,	18 47.96	.27	...	...	...	...		μ Hydræ,	19 42.33	.63	.67	.95	...	...		
α Hydræ,	21 6.07	.35	.38	.31	.42	.39	+35.0	α Antliæ,	21 6.77	.37	.31	.27	.62	.55	+42.2	
θ Urs. Maj.,	24 0.73	.34	...	...	...	...		δ Antliæ,	23 23.10	.40	.40	.46	.68	...	-29.0	
10 Leo. Min.,	26 7.70	.11	.11	.86	.07	.84	-25.4	ρ Leonis,	25 51.49	.22	.32	.19	.43	.50	-16.2	
33 Hydræ,	27 57.39	.24	...	...	...	...		48 Leonis,	27 54.72	.77	.68	.63	.92	.80	-30.4	
42 Lyncis,	30 7.70	.61	.56	.47	.32	.32	-28.3	ϕ_2 Hydræ,	29 49.95	.216	.80	...	...	...		
ι Hydræ,	33 6.85	.07	.07	.90	.02	.84	- 4.5	ϕ_3 Hydræ,	32 9.02	.06	.98	.21	.17	...	-29.0	
σ Leonis,	34 6.24	.86	...	...	...	...		B. A. C. 3665,	35 34.67	.48	.57	.34	.48	.49	+10.0	
ψ Leonis,	36 32.39	.93	.98	.15	.10	.15	- 8.1	42 Leo. Min.,	38 31.16	.56	.74	...	...	...		
ϵ Leonis,	38 21.22	.11	.19	.02	.13	.95		b_1 Hydræ,	40 24.12	.52	.56	.76	.81	.80	+ 7.6	
v Urs. Maj.,	41 34.73	.98	.96	.15	.15	...		l Leonis,	42 19.94	.89	...	...	...	...		
ϕ Urs. Maj.,	43 6.30	.67	.75	.81	.67	.69	+52.3	41 Sextantis,	43 40.78	.78	.01	.02	.98	...	-15.7	
μ Leonis,	45 15.09	.70	.83	...	...	...		ω Urs. Maj.,	46 22.26	.88	.97	.11	.11	...	-16.2	
B. A. C. 3385,	47 3.30	.74	.66	.67	.67	.68	+37.0	54 Leonis,	48 27.75	.10	.18	.21	...	...	+31.4	
B. A. C. 3398,	49 25.92	.77	...	...	...	...		B. A. C. 3755,	50 34.22	.98	.14	.14	.22	...	-16.6	
ν Leonis,	51 7.15	.32	...	...	...	...	- 5.3	α Crateris,	53 20.65	.98	.97	.96	.83	...	+11.3	
π Leonis,	53 14.06	.78	.73	.65	.67	.69	+40.8	α Urs. Maj.,	55 33.50	.76	.70	.88	...	...	- 8.2	
B. A. C. 3428,	56 9.10	.71	...	...	...	...		χ Leonis,	58 12.43	.37	.10	.25	.32	...	+43.9	
v_2 Hydræ,	58 41.68	.97	.88	.79	.85	.90	- 0.5	p^3 Leonis,	11 0 10.17	.86	.80	.73	.64	.74	+25.4	
η Leonis,	10 0 7.93	.69	...	...	...	...		ψ Urs. Maj.,	2 13.92	.77	.72	...	...	...		
		.90	.01	.87	.91	.89	+17.4	β Crateris,	5 10.01	.10	.34	.19	.14	.25	-36.4	
		.94	.01	...	...	...		δ Leonis,	7 5.12	.29	...	...	...	...		
								η Leonis,	8 57.52	.67	...	...	...	...		
								ξ Urs. Maj.,	11 8.14	.52	.89	.71	.57	.43	+62.5	
								δ Crateris,	12 44.58	.48	.42	.49	.39	.41	+ 8.1	
										.39	...	...	...	...		
										.24	.28	.06	...	...	+ 2.7	
										.90	.02	...	...	...	+45.2	
										.89	.97	.06	.06	.07	-22.1	
										.08	.96	...	...	...		
										.24	.16	.94	.19	.07	+21.3	
										.07	.26	.14	.11	.97		
										.61	.46	.45	.58	.47	+14.0	
										.56	.50	...	...	...		
										.17	.07	.12	.06	.13	+32.3	
										.20	.23	...	...	...		
										.48	.46	.63	.58	.72	-14.1	
										.73	.45	...	...	...		

OBSERVATIONS OF TRANSITS REDUCED TO 1868.0.

Object.	Mean α 1868.0.	Separate Results.					δ	Object.	Mean α 1868.0.	Separate Results.					δ
	h. m. s.	s.	s.	s.	s.	s.	°		h. m. s.	s.	s.	s.	s.	s.	°
σ Leonis,	11 14 19.72	.70	.69	.75	.65	.76	+ 6.8	12 Comæ,	12 15 52.08	.94	.06	.16	.13	.10	+26.6
		.77	...	...	...	...		13 Comæ,	17 41.07	.95	.05	.11	.14	.11	+26.8
λ Crateris,	16 49.26	.10	.21	.29	.31	.36	-18.1	γ Comæ,	20 21.40	.35	.33	.40	.47	.47	+29.0
		.27	.25	.32	...	...		δ Corvi,	23 2.17	.23	.20	.12	.03	.25	-15.8
B. A. C. 3885,	18 29.29	.32	.29	.08	.19	.50	+56.6	η Corvi,	25 16.22	.14	.27	.27	.18	.17	-15.5
		.32	.34	...	...	...				.23	.31	...	...	...	
τ Leonis,	21 8.94	.89	.91	.84	.85	.00	+ 3.6	β Corvi,	27 27.37	.38	.29	.55	.34	.30	-22.7
		.95	.90	.88	.01	.01				.41	.32	...	...	...	
		.09	.96	...	...	...		f Virginis,	29 59.51	.51	.58	.58	.43	.48	- 5.1
ϵ Leonis,	23 34.25	.32	.25	.28	.16	...	- 2.3			.57	.52	.42	...	...	
B. A. C. 3928,	26 30.79	.75	.87	.70	.86	.81	-31.1	χ Virginis,	32 26.13	.17	.21	.14	.17	.10	- 7.3
		.67	.84	...	...	...				.06	.17	.03	...	...	
B. A. C. 3934,	28 4.76	.60	.96	.74	.84	.63	-32.1	γ Virginis,	34 58.37	.40	.51	.44	.34	.26	- 0.7
		.77	.74	.81	...	...				.29	.40	.33	...	...	
91 Leonis,	30 11.45	.44	.42	.48	.47	.40	- 0.1	B. A. C. 4287,	38 55.33	.22	.29	.40	.43	.32	+46.2
		.48	.45	.39	.60	.44		35 Virginis,	41 8.26	.42	.33	.29	.18	.30	+ 4.3
		.40	.48	...	...	...				.08	.23	...	...	...	
ϵ Crateris,	31 57.90	.79	.88	.96	.86	.89	-12.5	30 Comæ,	42 51.48	.47	.48	.48	.47	.49	+28.3
		.02	...	...	...	...				.51	...	...	...	...	
62 Urs. Maj.,	34 41.70	.58	.79	.66	.77	...	+32.5	31 Comæ,	45 16.06	.09	.04	.10	.94	.12	+28.3
B. A. C. 3973,	36 37.49	.36	.22	.57	.43	.54	+42.5	ψ Virginis,	47 29.43	.47	.49	.38	.38	...	- 8.8
		.49	.65	.66	...	...		12 Can. Ven.,	49 50.92	.90	.95	.92	...	...	+39.0
χ Urs. Maj.,	39 4.20	.15	.15	.19	.20	.33	+48.5	36 Comæ,	52 23.75	.66	.79	.79	.78	.81	+18.1
		.29	.10	...	...	...				.66	...	...	...	...	
A_1 Virginis,	41 7.99	.83	.10	.97	.03	.99	+ 9.0	ϵ Virginis,	55 36.37	.33	.34	.43	.32	.35	+11.7
		.00	...	...	...	...				.50	.31	...	...	...	
β Leonis,	42 19.52	.54	.46	.59	.47	.57	+15.3	48 Virginis,	57 6.45	.44	.44	.56	.38	.51	- 2.9
		.50	.46	.55	.54	.47				.37	...	...	...	...	
		.52	...	...	...	...		14 Can. Ven.,	59 4.15	.12	.13	.16	.21	...	+36.5
β Virginis,	43 49.22	.20	.09	.29	.20	.20	+ 2.5	ψ Hydræ,	13 1 56.95	.90	.05	.87	.97	.94	-22.4
		.25	.30	.33	.14	.17		θ Virginis,	3 7.03	.06	.99	.99	.06	.07	- 4.8
		.24	...	...	...	...		61 Virginis,	11 30.17	.28	.13	.11	.18	...	-17.6
γ Urs. Maj.,	46 52.56	.47	.55	.68	.57	.48	+54.4	63 Virginis,	15 57.12	.08	.10	.10	.20	...	-17.0
		.36	.65	.61	.58	.59		α Virginis,	18 14.42	.57	.39	.41	.31	.33	-10.5
		.62	...	...	...	...				.49	...	...	...	...	
$\circ$ Leonis,	48 53.08	.95	.02	.09	.16	.18	+16.4	ι Virginis,	19 44.94	.97	.96	.95	.80	.04	-12.0
B. A. C. 4037,	50 21.67	.55	.64	.76	.60	.65	-32.6	70 Virginis,	21 58.50	.57	.41	.53	...	...	+14.5
		.82	...	...	...	...		B. A. C. 4513,	24 36.73	.83	.83	.90	.56	.73	+24.9
δ Virginis,	53 11.21	.16	.07	.21	.29	.08	+ 4.4			.52	...	...	...	...	
		.45	...	...	...	...		h Virginis,	26 1.10	.13	.10	.17	.96	.26	- 9.5
67 Urs. Maj.,	55 24.13	.07	.07	.02	.06	.09	+43.8			.00	...	...	...	...	
		.25	.34	...	...	...		ζ Virginis,	27 58.13	.18	.13	.02	.20	.19	+ 0.1
$\circ$ Virginis,	58 29.11	.09	.02	.07	.09	.08	+ 9.5			.08	...	...	...	...	
		.21	.14	.15	...	...		B. A. C. 4541,	29 29.19	.22	.21	.28	.05	...	-25.8
α Corvi,	12 1 36.61	.58	.55	.69	.63	.61	-24.0	25 Can. Ven.,	31 35.63	.66	.63	.62	.61	.64	+37.0
ϵ Corvi,	3 20.40	.35	.44	.71	.22	.42	-21.9	m Virginis,	34 41.10	.09	.00	.16	.14	.13	- 8.0
		.26	...	...	...	...		83 Virginis,	37 22.66	.71	.50	.81	.66	.64	-15.5
1 Can. Ven.,	8 10.14	.01	.97	.09	.05	.37	+54.2	87 Virginis,	40 14.69	.77	.62	.71	.74	.61	-17.2
		.26	.22	...	...	...		η Urs. Maj.,	42 20.17	.22	.13	.19	.13	...	+50.0
B. A. C. 4128,	9 51.77	.71	.70	.68	.79	.81	+33.8	h Centauri,	45 36.98	.07	.99	.02	.02	.79	-31.3
		.85	.85	...	...	...		η Bootis,	48 23.94	.92	.83	.95	.92	.08	+19.1
η Virginis,	13 9.25	.20	.25	.23	.29	.23	+ 0.1	9 Bootis,	50 32.48	.44	.50	.50	...	...	+28.1
		.22	.32	...	...	...		48 Hydræ,	52 36.74	.74	...	...	...	...	-24.4

OBSERVATIONS OF TRANSITS REDUCED TO 1868.0.

Object.	Mean α 1868.0.	Separate Results.					δ	Object.	Mean α 1868.0.	Separate Results.					δ
	h. m. s.	s.	s.	s.	s.	s.	°		h. m. s.	s.	s.	s.	s.	s.	°
τ Virginis,	54 55.79	.84	.78	.75	...	...	+ 2.2	δ Ophiuchi,	16 7 25.80	.74	.87	...	...	...	- 3.3
B. A. C. 4679,	57 18.29	.25	.28	.33	...	...	-14.3	σ Cor. Bor.,	9 44.16	.16	...	...	...	...	+34.2
θ Centauri,	59 55.16	.16	...	...	...	...	-35.7	ϵ Ophiuchi,	11 20.22	.22	...	...	...	...	- 4.4
α Draconis,	14 0 48.79	.85	.65	.87	...	...	+65.0	σ Scorpii,	13 10.04	.10	.98	...	...	...	-25.3
B. A. C. 4699,	2 39.02	.02	.02	...	...	...	+44.5	τ Herculis,	15 46.38	.34	.42	.39	...	...	+46.6
κ Virginis,	5 51.30	.31	.30	...	...	...	- 9.6	ρ Ophiuchi,	17 40.23	.21	.25	...	...	...	-23.1
14 Bootis,	7 44.25	.25	.26	...	...	...	+13.6	ω Herculis,	19 19.43	.43	...	...	...	...	+14.4
α Bootis,	9 38.47	.34	.53	.54	...	...	+19.9	α Scorpii,	21 18.97	.02	.88	.04	.94	...	-26.1
λ Virginis,	11 58.22	.22	...	...	...	...	-12.7	η Draconis,	22 13.07	.07	...	...	...	...	+61.8
B. A. C. 4757,	14 25.50	.50	...	...	...	...	-34.2	ϕ Ophiuchi,	23 34.96	.96	...	...	...	...	-16.3
θ Bootis,	20 42.31	.31	...	...	...	...	+52.5	n Herculis,	26 6.01	.99	.04	...	...	...	+ 5.6
B. A. C. 4797,	22 48.60	.60	...	...	...	...	+36.8	τ Scorpii,	27 39.99	.93	.05	...	...	...	-27.9
B. A. C. 4805,	24 24.42	.42	...	...	...	...	+42.4	ζ Ophiuchi,	29 53.43	.37	.49	...	...	...	-10.3
π Bootis,	34 31.46	.52	.24	.52	...	...	+17.0	B. A. C. 5568,	32 20.19	.13	.26	...	...	...	+46.9
μ Virginis,	36 6.38	.29	.40	.44	...	...	- 5.1	B. A. C. 5579,	33 56.51	.51	...	...	...	...	-17.5
34 Bootis,	37 37.24	.27	.08	.36	...	...	+27.1	ζ Herculis,	36 18.59	.46	.63	.67	...	...	+31.8
ϵ Bootis,	39 13.34	.37	.22	.44	...	...	+27.6	η Herculis,	38 22.28	.30	.23	.31	...	...	+39.2
μ Libræ,	42 5.20	.27	.13	...	...	...	-13.6	ϵ Scorpii,	41 41.25	.25	...	...	...	...	-34.1
α_1 Libræ,	43 23.42	.52	.31	...	...	...	-15.4	κ Herculis,	43 54.93	.91	.98	.90	...	...	+ 7.5
α_2 Libræ,	43 34.89	.98	.80	...	...	...	-15.5	51 Herculis,	46 17.04	.18	.96	.08	.98	.01	+24.9
ξ Bootis,	45 18.21	.22	.19	...	...	...	+19.6	i Ophiuchi,	47 45.84	.90	.79	.92	.78	.81	+10.4
ξ_1 Libræ,	47 13.08	.08	.09	...	...	...	-11.4	54 Herculis,	49 34.17	.16	.10	.31	.17	.12	+18.6
ξ_2 Libræ,	49 36.65	.65	...	...	...	...	-10.9	κ Ophiuchi,	51 25.32	.42	.18	.41	.33	.27	+ 9.6
δ Libræ,	53 55.26	.33	.18	...	...	...	- 8.0	B. A. C. 5718,	53 20.75	.60	.89	.76	...	...	-31.9
β Bootis,	56 58.45	.45	...	...	...	...	+40.9	ϵ Herculis,	55 14.35	.39	.18	.48	.37	...	+31.1
ψ Bootis,	58 47.31	.28	.35	...	...	...	+27.5	d Herculis,	56 44.04	.99	.11	.99	.07	...	+33.8
c Bootis,	15 1 30.21	.23	.20	...	...	...	+25.4	60 Herculis,	59 15.56	.56	...	...	...	...	+12.9
24 Libræ,	4 41.83	.83	...	...	...	...	-19.3	η Ophiuchi,	2 48.60	.49	.67	.70	.53	...	-15.6
1 Lupi,	6 32.28	.32	.24	...	...	...	-31.0	B. A. C. 5795,	5 3.03	.02	.92	.06	.13	.01	+51.0
B. A. C. 5023,	8 43.93	.96	.90	...	...	...	-21.9	B. A. C. 5804,	6 39.50	.42	.53	.58	.47	...	-33.6
β Libræ,	9 54.29	.32	.25	...	...	...	- 8.9	α Herculis,	8 37.73	.74	.64	.74	.79	.76	+14.5
δ Lupi,	12 42.74	.74	...	...	...	...	-40.2	π Herculis,	17 10 27.03	.00	.08	.92	.07	.08	+37.0
ϕ_2 Lupi,	14 43.57	.57	...	...	...	...	-36.4	μ Herculis,	12 27.01	.97	.02	.02	.01	.05	+33.3
ϵ Libræ,	17 2.82	.64	.01	...	...	...	- 9.8	θ Ophiuchi,	13 54.29	.25	.36	.33	.23	.26	-24.9
μ_1 Bootis,	19 30.28	.26	.28	.33	.25	...	+37.8	w Herculis,	15 43.27	.13	.22	.36	.34	.31	+32.6
i Draconis,	21 59.50	.50	...	...	...	...	+59.4	b Ophiuchi,	18 18.55	.58	.55	.64	.58	.42	-24.1
B. A. C. 5109,	25 1.92	.84	.77	.15	...	...	-19.2	σ Ophiuchi,	19 57.95	.98	.95	.99	.89	...	+ 4.3
37 Libræ,	26 58.05	.90	.14	.11	...	...	- 9.6	v Scorpii,	21 47.55	.64	.55	.46	...	...	-37.2
α Cor. Bor.,	29 5.98	.94	.02	.97	...	...	+27.2	λ Scorpii,	24 38.84	.88	.84	.90	.87	.69	-37.0
ψ_1 Lupi,	31 23.36	.21	.51	...	...	...	-34.0	β Draconis,	27 27.09	.03	.08	.14	.12	.08	+52.4
ψ_2 Lupi,	34 16.71	.52	.83	.77	...	...	-34.0	α Ophiuchi,	28 48.48	.45	.51	.51	.46	.48	+12.7
i Serpentis,	35 40.14	.14	...	...	...	...	+20.1	μ Ophiuchi,	30 40.23	.24	.29	.26	.22	.13	- 8.1
α Serpentis,	37 46.19	.24	.14	...	...	...	+ 6.8	κ Scorpii,	33 21.41	.49	.47	.41	.26	...	-39.0
β Serpentis,	40 5.79	.79	...	...	...	...	+15.8	58 Ophiuchi,	35 31.22	.18	.24	.29	.14	.18	-21.6
μ Serpentis,	42 44.09	.16	.02	...	...	...	- 3.0			.27	...	...	...	...	
ϵ Serpentis,	44 14.27	.21	.35	.25	...	...	+ 4.9	β Ophiuchi,	36 57.13	.15	.19	.11	.12	.09	+ 4.6
λ Libræ,	45 40.74	...	...	...	...	...	-19.8	3 Sagittarii,	39 15.18	.19	.20	.16	.16	.18	-27.8
ϵ Cor. Bor.,	52 7.35	.31	.39	...	...	...	+27.3			.19	...	...	...	...	
β_1 Scorpii,	57 45.76	.76	.75	...	...	...	-19.4	μ Herculis,	41 17.58	.55	.50	.59	.63	.67	+27.8
θ Draconis,	59 25.22	.22	...	...	...	...	+58.9			.51	...	...	...	...	
κ Herculis,	16 2 7.15	.15	...	...	...	...	+17.4	87 Herculis,	43 27.72	.88	.70	.77	.71	.56	+25.7
B. A. C. 5383,	4 18.29	.29	...	...	...	...	-19.1	30 Draconis,	45 55.25	.14	.16	.21	.39	.30	+50.8
ν Scorpii,	5 19.44	.44	...	...	...	...	-19.1			.31	...	...	...	...	

OBSERVATIONS OF TRANSITS REDUCED TO 1868.0.

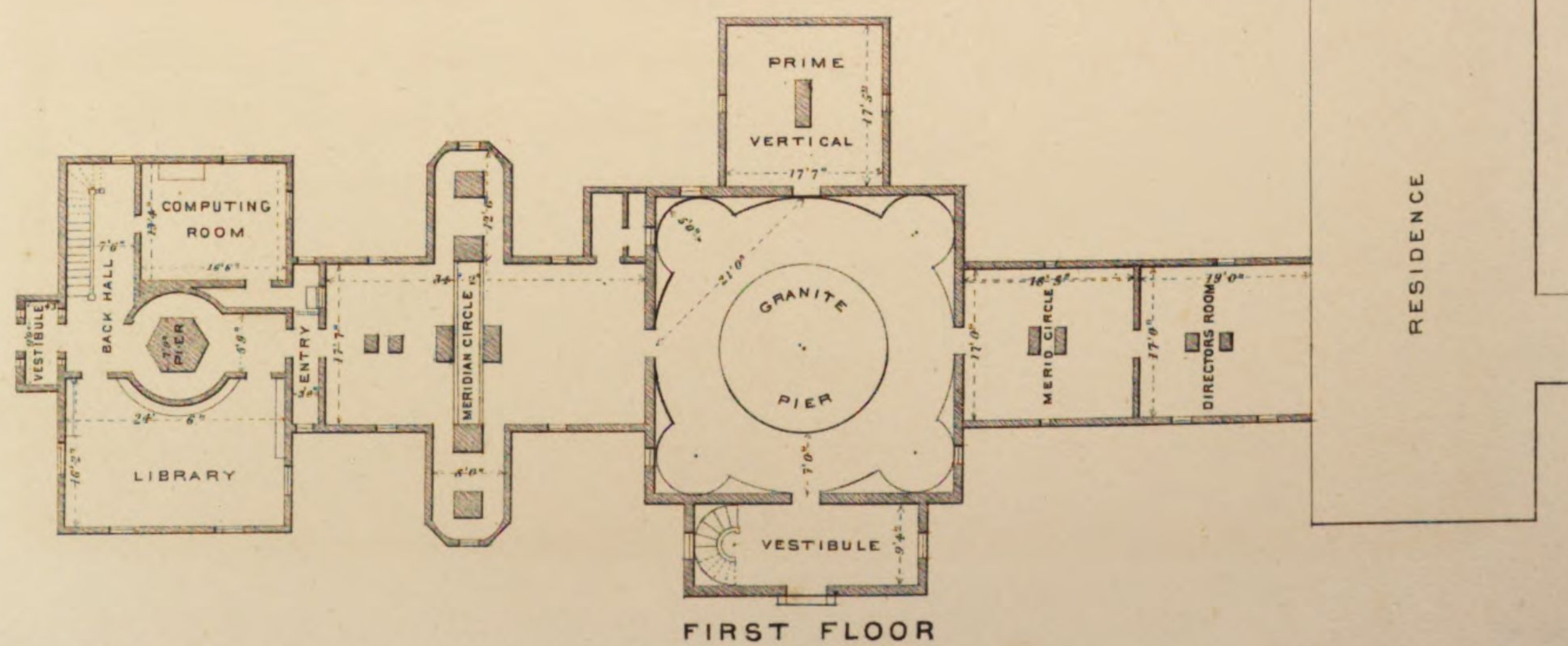
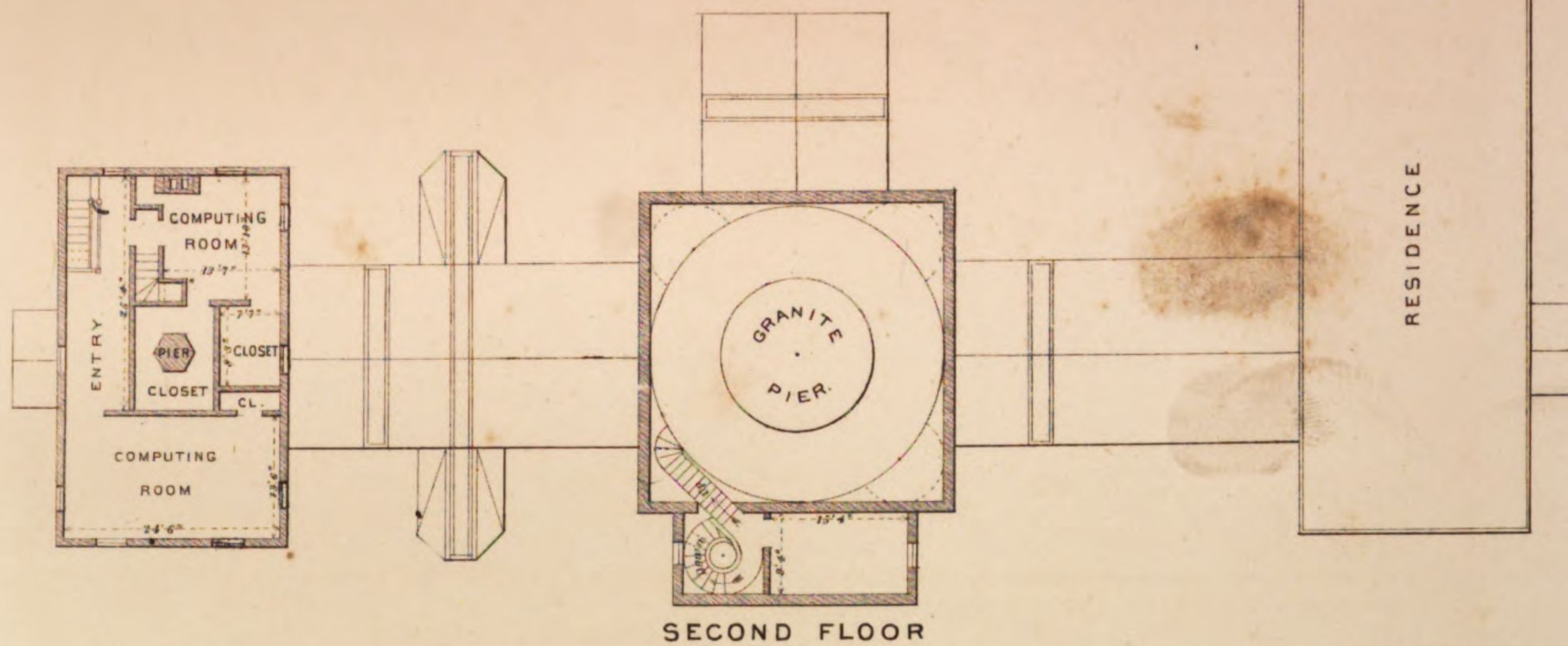
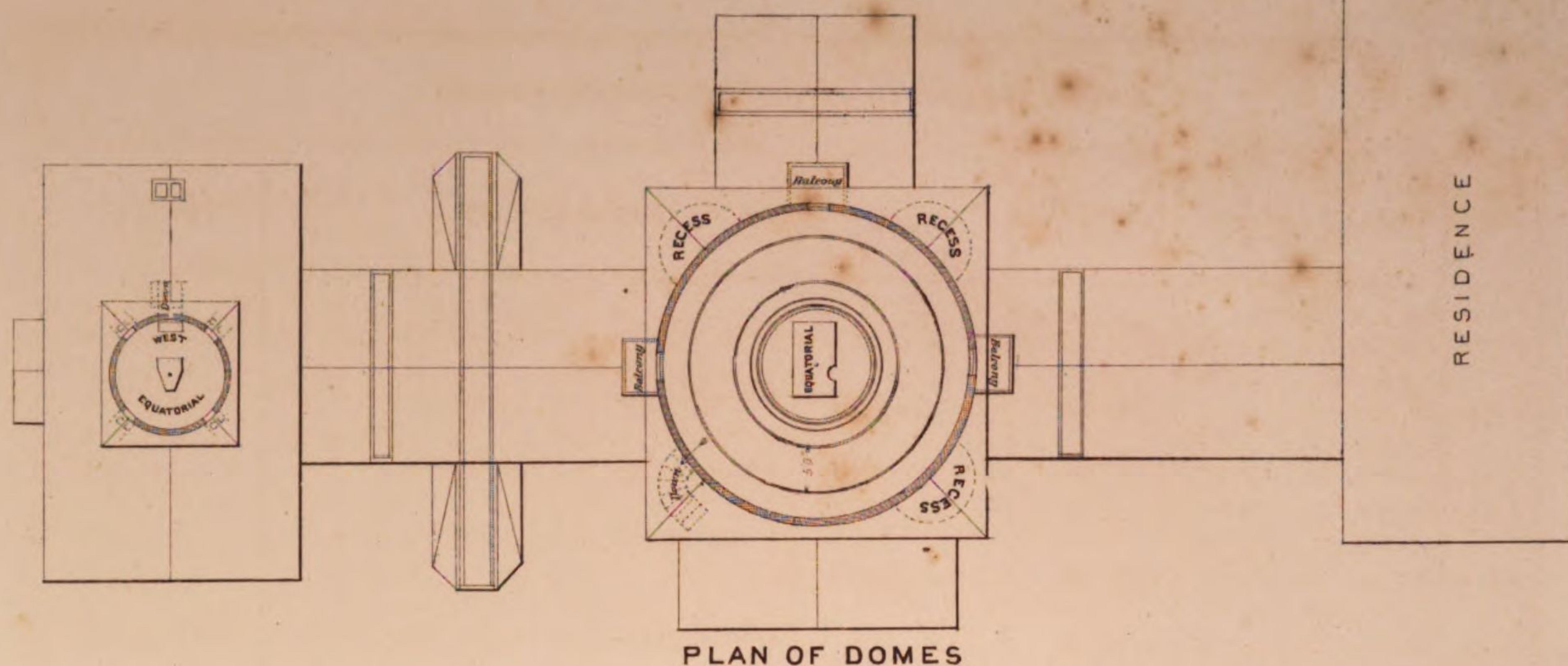
Object.	Mean α 1868.0.	Separate Results.					δ	Object.	Mean α 1868.0.	Separate Results.					δ
	h. m. s.	s.	s.	s.	s.	s.	$^{\circ}$		h. m. s.	s.	s.	s.	s.	s.	$^{\circ}$
B. A. C. 6062,	17 47 47.08	.12	.96	.11	.07	.16	+40.0	ϵ Aquilæ,	18 53 37.87	.86	.06	.80	.80	.95	+14.9
89 Herculis,	50 5.67	.59	.63	.69	.75	.69	+26.1	g Aquilæ,	55 57.36	.46	.47	.37	.32	.30	- 3.9
ν Ophiuchi,	51 45.60	.52	.51	.68	.60	.67	- 9.7	16 Lyræ,	57 42.29	.24	.33	...	...	...	
γ Draconis,	53 32.56	.53	.44	.58	.50	.64	+51.5	ζ Aquilæ,	59 20.57	.31	.34	.53	.21	.15	+46.7
68 Ophiuchi,	55 3.43	.67	...	...	...	...	+ 1.3	π Sagittarii,	19 1 55.72	.19	...	...	...	...	
γ_2 Sagittarii,	57 19.72	.30	...	...	...	...	-30.4	B. A. C. 6561,	4 34.67	.59	.64	.64	.62	.54	+13.7
B. A. C. 6127,	59 43.38	.82	.66	...	...	...	-28.5	ψ Sagittarii,	7 26.68	.51	.57	.46	...	...	
σ Herculis,	18 2 23.63	.45	.36	.33	.28	.48	+28.8	d Sagittarii,	9 54.67	.83	.70	.74	.73	.58	-21.2
μ_1 Sagittarii,	5 52.20	.40	...	...	...	...	-21.1	θ Lyræ,	11 47.18	.72	.74	.71	...	...	
η Sagittarii,	8 41.69	.60	.61	.65	.55	.69	+28.8	d Aquilæ,	13 46.96	.68	.67	.61	.69	.62	-21.9
B. A. C. 6194,	9 47.45	.62	.66	...	...	...	-36.8	B. A. C. 6626,	15 6.58	.72	...	...	...	...	
δ Sagittarii,	12 32.59	.27	.06	.31	.21	.14	-27.1	χ_1 Sagittarii,	17 14.43	.60	.68	.58	.68	.64	-25.5
B. A. C. 6241,	16 38.48	.20	.14	.29	...	...	+23.2	δ Aquilæ,	18 50.56	.81	.77	...	...	...	
B. A. C. 6255,	18 10.14	.89	.59	.79	.60	.55	-29.9	4 Cygni,	21 22.93	.62	.75	.59	.68	.62	-19.2
λ Sagittarii,	19 49.42	.62	.79	...	...	...	-25.5	a Vulpeculæ,	23 12.72	.58	.69	.83	...	...	
b Draconis,	21 58.99	.61	.46	.46	.26	.32	+58.8	β_1 Cygni,	25 23.79	.17	.28	.12	.05	.30	+37.9
B. A. C. 6300,	24 7.34	.53	.41	.42	...	...	+23.8	μ Aquilæ,	27 38.40	.92	.99	.06	.00	.94	- 1.1
B. A. C. 6318,	25 53.15	.58	.60	.56	.55	.54	+59.5	B. A. C. 6737,	33 22.90	.87	...	...	...	...	
1 Aquilæ,	28 1.40	.65	.68	...	...	...	- 8.3	β Sagittæ,	35 7.23	.70	.61	...	...	...	
d Draconis,	30 17.88	.43	.40	.53	...	...	+56.9	B. A. C. 6755,	37 35.66	.41	.42	.42	.42	.55	-24.8
α Lyræ,	32 28.16	.05	.17	...	...	...	+38.7	δ Sagittæ,	41 30.09	.36	...	...	...	...	
2 Aquilæ,	35 2.76	.48	.47	.27	.48	.37	-25.5	ζ Sagittæ,	43 7.05	.54	.58	.52	.64	.51	+ 2.8
110 Herculis,	39 58.94	.45	.47	.37	...	...	+58.8	α Aquilæ,	44 20.52	.01	.92	.88	.88	.98	+36.1
B. A. C. 6404,	41 59.83	.02	.93	.01	.99	.01	+23.8	B. A. C. 6755,	37 35.66	.89	...	...	...	...	
B. A. C. 6419,	43 46.14	.05	.82	.06	.00	...	+59.5	γ Aquilæ,	39 59.02	.75	.75	...	...	...	
β Lyræ,	45 12.31	.33	.31	.30	.45	.32	+52.9	δ Sagittæ,	41 30.09	.68	.80	.67	.70	.67	+24.4
σ Sagittarii,	47 4.73	.33	.36	...	...	...	-26.4	ϵ Sagittæ,	31 18.88	.77	.73	.65	...	...	
δ_1 Lyræ,	49 6.92	.98	.26	.19	.23	.22	+36.8	B. A. C. 6737,	33 22.90	.75	.75	...	...	...	
13 Lyræ,	51 19.05	.14	.04	...	...	...	+43.8	β Sagittæ,	35 7.23	.83	.86	.86	.84	.77	+27.7
		.02	...	...	...	...		γ Aquilæ,	39 59.02	.77	.73	.65	...	...	

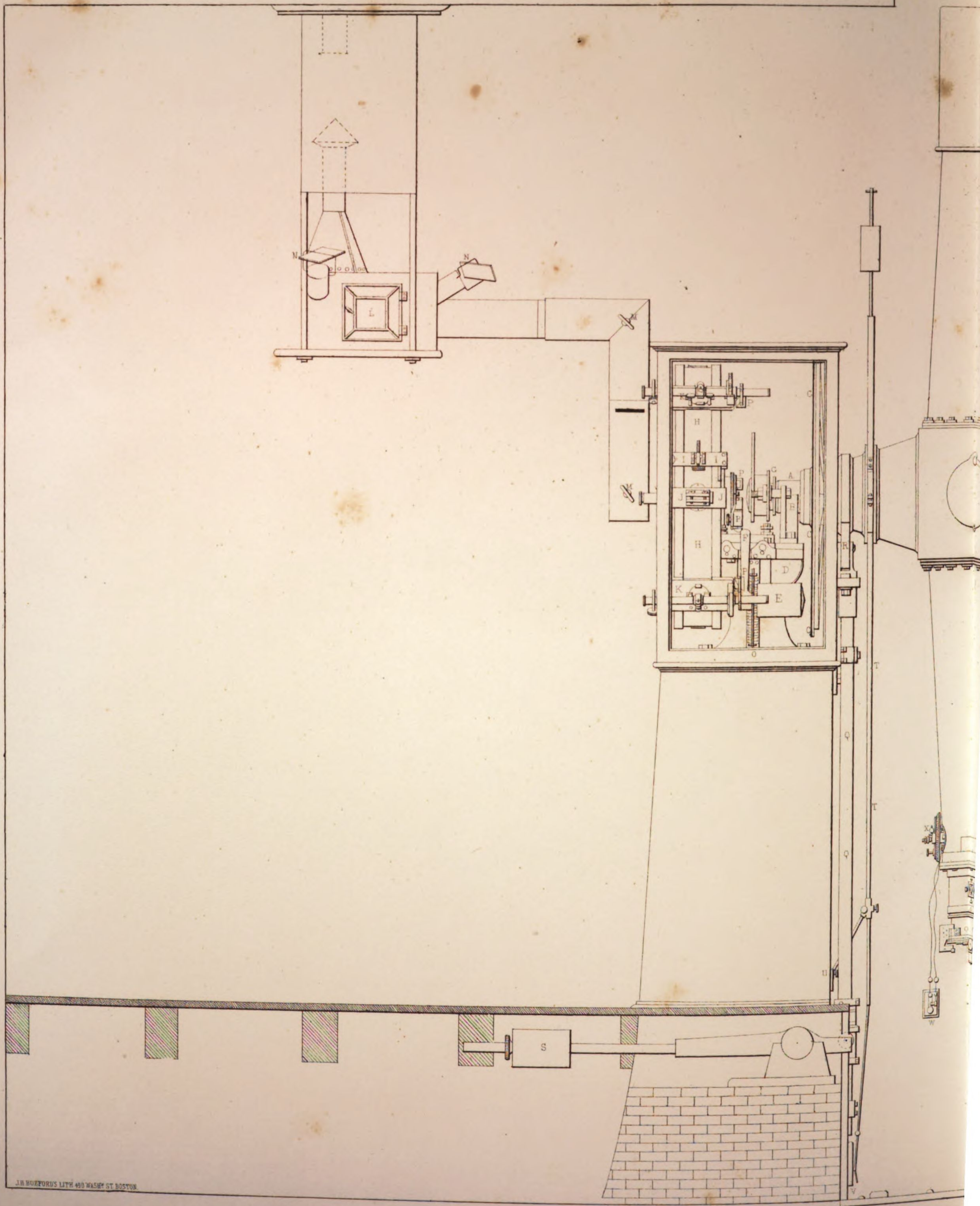
OBSERVATIONS OF TRANSITS REDUCED TO 1868.0.

Object.	Mean α 1868.0.	Separate Results.					δ	Object.	Mean α 1868.0.	Separate Results.					δ
	h. m. s.	s.	s.	s.	s.	s.	°		h. m. s.	s.	s.	s.	s.	s.	°
ϵ Sagittarii,	19 46 8.97	.89	.85	.92	.03	.18	-42.2	μ Aquarii,	20 45 31.90	.78	.85	.84	.02	.83	-9.5
β Aquilæ,	48 49.72	.68	.73	.76	.71	.74	+6.1			.00	.96	...	...	...	
		.70	.50	...	...	...		19 Capricorni,	47 20.15	.97	.21	.19	.17	.23	-18.4
γ Sagittarii,	50 27.73	.91	.66	.65	.72	.72	-15.8			.13	.13	...	...	...	
γ Sagittæ,	52 53.20	.27	.20	.14	.14	.26	+19.1	32 Vulpeculæ,	48 56.11	.10	.06	.16	.14	.01	+27.5
c Sagittarii,	54 32.34	.37	.31	.31	.35	.36	-28.1			.06	.27	.12	...	...	
B. A. C. 6882,	56 9.23	.15	.19	.34	...	...	+24.4	ν Cygni,	52 15.20	.18	.20	.24	.24	.23	+40.7
τ Aquilæ,	57 41.52	.46	.61	.52	.58	.59	+6.9			.17	.21	.12	...	...	
		.42	.46	.44	.44	.55		B. A. C. 7294,	54 16.41	.38	.50	.27	.54	.37	+49.9
		.69	...	...	...	...		η Capricorni,	56 53.38	.28	.38	.42	.35	.49	-20.4
ϵ Draconis,	20 0 4.33	.27	.32	.25	.49	...	+64.4			.34	.42	...	...	...	
B. A. C. 6924,	2 21.21	.24	.12	.27	...	...	+56.0	θ Capricorni,	58 31.45	.54	.36	.44	.41	.51	-17.8
θ Aquilæ,	4 29.59	.55	.60	.70	.53	.40	-1.2	61 ₁ Cygni,	21 0 58.51	.68	.42	.50	.52	.62	+38.1
		.60	.76	.55	...	...				.36	.43	.58	...	...	
20 Vulpeculæ,	6 28.58	.56	.58	.66	.61	.61	+26.1	ν Aquarii,	2 24.06	.03	.01	.04	.09	.09	-11.9
		.59	.48	.56	...	...				.12	...	...	...	...	
ρ Aquilæ,	8 10.12	.11	.17	.17	.11	.13	+14.8	γ Equulei,	3 55.32	.38	.24	.24	.38	.34	+9.6
		.03	...	...	...	...				.30	.35	...	...	...	
α_1 Capricorni,	10 19.76	.73	.80	.83	.74	.59	-12.9	3 Piscis. Aust.,	5 27.51	.37	.74	.41	.51	.42	-28.1
		.90	.60	.84	.80	...				.64	...	...	...	...	
α_2 Capricorni,	10 43.79	.97	.76	.73	.82	.68	-13.0	ζ Cygni,	7 19.17	.19	.04	.19	.22	.18	+29.7
		.84	.74	.78	...	...				.20	...	...	...	...	
β Capricorni,	13 35.55	.78	.56	.38	.65	.55	-15.2	τ Cygni,	9 31.41	.50	.47	.34	.34	.34	+37.5
		.38	...	...	...	...				.46	...	...	...	...	
B. A. C. 7008,	15 28.22	.16	.17	.23	.24	.24	+39.0	σ Cygni,	12 13.99	.07	.98	.79	.10	.99	+38.8
		.29	.24	...	...	...				.97	.00	...	...	...	
γ Cygni,	17 29.40	.40	.42	.52	.43	.35	+39.8	α Cephei,	15 25.70	.78	.71	.77	.54	...	+62.0
		.32	.35	.44	.20	...		1 Pegasi,	15 58.92	.82	.96	.98	...	...	+19.3
π Capricorni,	19 45.83	.80	.75	.87	.67	.83	-18.6	ζ Capricorni,	19 7.68	.75	.65	.71	.65	.66	-23.0
		.91	.89	.92	.84	.78		b Capricorni,	21 11.63	.59	.56	.63	.64	.55	-22.4
ρ Capricorni,	21 19.72	.75	.73	.62	.74	.77	-18.3			.69	.72	...	...	...	
		.72	.70	...	...	...		β Aquarii,	24 36.45	.42	.51	.31	.61	.41	-6.1
41 Cygni,	24 0.13	.25	.14	.04	.15	.09	-29.9			.49	.39	.47	...	...	
		.08	...	...	...	...		B. A. C. 7488,	26 49.95	.09	.88	.04	.78	...	+51.6
ϵ Delphini,	26 54.35	.37	.34	.40	.33	.39	+10.8	ρ Cygni,	29 1.10	.29	.07	.01	.12	.09	+45.0
		.37	.35	.35	.33	.27				.14	.98	...	...	...	
ζ Delphini,	29 8.16	.22	.23	.17	.19	.10	+14.2	ξ Aquarii,	30 43.41	.42	.39	.64	.48	.32	-8.4
		.11	.16	.18	.12	...				.49	.28	.26	.39	...	
β Delphini,	31 21.52	.41	.48	.53	.52	.51	+14.1	γ Capricorni,	32 46.52	.46	.54	.53	.65	.47	-17.2
		.68	...	...	...	...				.48	.51	...	...	...	
α Delphini,	33 30.38	.42	.42	.28	.34	.36	+15.4	κ Capricorni,	35 16.14	.98	.15	.17	.31	.02	-19.5
		.39	.38	.37	.62	.46				.08	.25	...	...	...	
10 Delphini,	35 5.41	.27	.40	.45	.46	.33	+15.2	ϵ Pegasi,	37 42.15	.29	.12	.17	.11	.11	+9.3
		.52	.43	...	...	...				.17	.10	.15	...	...	
α Cygni,	36 55.91	.13	.79	.83	.83	.76	+44.8	δ Capricorni,	39 45.08	.02	.09	.99	.14	.18	-16.7
		.84	.93	.87	.94	.14		π_2 Cygni,	41 55.22	.28	.30	.07	.23	.21	+48.7
30 Vulpeculæ,	39 9.69	.65	.60	.57	.76	.79	+24.8			.29	.29	.06	...	...	
		.79	.71	.64	...	...		14 Pegasi,	44 0.49	.61	.47	.45	.43	.55	+29.6
ϵ Cygni,	40 52.20	.34	.18	.23	.27	.27	+33.5			.46	.48	...	...	...	
		.10	.04	...	...	...		μ Capricorni,	46 5.84	.98	.87	.79	.84	.73	-14.2
η Cephei,	42 36.12	.05	.12	.07	.95	.07	+61.3	B. A. C. 7636,	48 40.28	.40	.17	.26	...	...	+55.6
		.15	.33	.23	...	...		μ Cephei,	50 27.18	.28	.23	.03	...	...	+56.0
								η Piscis. Aust.,	53 14.87	.90	.03	.76	.87	.81	-29.1

OBSERVATIONS OF TRANSITS REDUCED TO 1868.0.																			
Object.	Mean α 1868.0.			Separate Results.					δ	Object.	Mean α 1868.0.			Separate Results.					δ
	h.	m.	s.	s.	s.	s.	s.	s.	$^{\circ}$		h.	m.	s.	s.	s.	s.	s.	$^{\circ}$	
α Aquarii,	21	56	29.11	.08	.16	.04	.18	...	- 2.8	γ Piscium,	23	10	19.38	.39	.34	.38	.35	.43	+ 2.6
α Aquarii,	59	0.20		.19	.10	.06	.23	.39	- 1.0	τ Pegasi,	14	6.32		.39	.28	.38	.34	.24	+23.0
i Pegasi,	22	0	52.04	.03	.04	.06	.07	.02	+24.7	b_1 Aquarii,	16	2.08		.12	.03	.09	.05	.09	-20.8
θ Pegasi,	3	32.48		.39	.49	.52	.51	.48	+ 5.5	v Pegasi,	18	47.59		.58	.51	.72	.63	.52	+22.7
ζ Cephei,	6	16.67		.51	.80	.71	.58	.73	+57.5	θ Piscium,	21	16.33		.37	.33	.37	.34	.33	+ 5.6
θ Aquarii,	9	52.04		.08	.09	.98	.00	.00	- 8.4	b_4 Aquarii,	26	21.95		.88	.00	.92	.00	.94	-21.6
ρ Aquarii,	13	15.07		.22	.16	.88	.96	.15	- 8.5	λ Andromedæ,	31	6.68		.73	.68	.69	.80	.67	+45.7
γ Aquarii,	14	50.27		.36	.23	.22	.28	...	- 2.0	i Piscium,	33	9.72		.65	.86	.60	.66	.76	+ 4.9
π Aquarii,	18	32.08		.15	.17	.99	.07	.02	+ 0.7	λ Piscium,	35	18.68		.65	.67	.62	.60	.72	+ 1.1
ζ Aquarii,	22	2.00		.96	.06	.00	.98	.04	- 0.7	ψ Andromedæ,	39	29.93		.12	.94	.76	.95	.11	+45.7
α Lacertæ,	25	51.39		.49	.29	.37	.42	...	+49.6	δ Sculptoris,	42	2.71		.64	.78	.77	.72	.61	-28.9
η Aquarii,	28	34.36		.31	.34	.39	.35	.39	- 0.8	ϕ Pegasi,	45	46.50		.45	.55	.53	.49	.51	+18.4
κ Aquarii,	30	55.13		.18	.28	.00	.06	...	- 4.9	ρ Cassiopeiæ,	47	48.15		.22	.11	.12	.01	.29	+56.8
ζ Pegasi,	34	52.73		.78	.77	.64	.67	.79	+10.1	ω Piscium,	52	32.06		.11	.98	.91	.11	.12	+ 6.1
η Pegasi,	36	48.98		.12	.92	.00	.99	.94	+29.5	30 Piscium,	55	11.39		.47	.28	.24	.34	.45	- 6.8
λ Pegasi,	40	10.40		.43	.45	.45	.43	.25	+22.9	2 Ceti,	56	58.61		.61	.47	.77	.50	.64	-18.1
μ Pegasi,	43	38.06		.08	.00	.06	.05	.12	+23.9				.67	.60	.63	...	...		
λ Aquarii,	45	43.43		.34	.49	.47	...	...	- 8.3										
δ Aquarii,	47	38.49		.49	.55	.48	.43	...	-16.5										
α Piscis Aust.,	50	20.96		.89	.01	.05	.00	.87	-30.3										
α Andromedæ,	55	51.15		.99	.13	.18	.22	.18	+41.6										
α Pegasi,	58	11.20		.24	.24	.17	.18	.18	+14.5										
c_2 Aquarii,	23																		

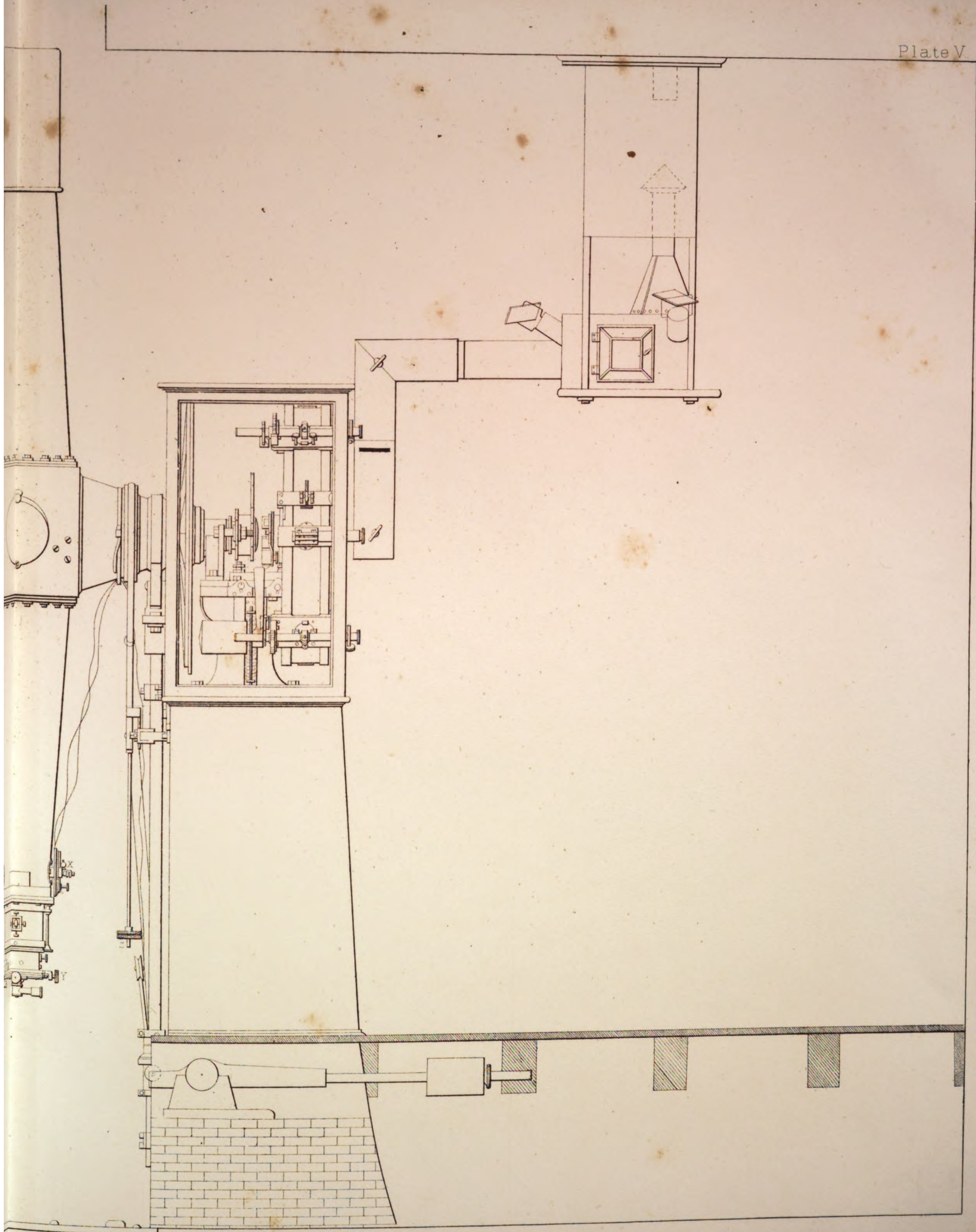
OBSERVATIONS OF TRANSITS REDUCED TO 1868.0.																			
Object.	Mean α 1868.0.			Separate Results.					δ	Object.	Mean α 1868.0.			Separate Results.					δ
	h.	m.	s.	s.	s.	s.	s.	s.	$^{\circ}$		h.	m.	s.	s.	s.	s.	s.	$^{\circ}$	
α Aquarii,	21	56	29.11	.08	.16	.04	.18	...	- 2.8	γ Piscium,	23	10	19.38	.39	.34	.38	.35	.43	+ 2.6
α Aquarii,	59	0.20		.19	.10	.06	.23	.39	- 1.0	τ Pegasi,	14	6.32		.39	.28	.38	.34	.24	+23.0
i Pegasi,	22	0	52.04	.03	.04	.06	.07	.02	+24.7	b_1 Aquarii,	16	2.08		.12	.03	.09	.05	.09	-20.8
θ Pegasi,	3	32.48		.39	.49	.52	.51	.48	+ 5.5	v Pegasi,	18	47.59		.58	.51	.72	.63	.52	+22.7
ζ Cephei,	6	16.67		.51	.80	.71	.58	.73	+57.5	θ Piscium,	21	16.33		.37	.33	.37	.34	.33	+ 5.6
θ Aquarii,	9	52.04		.08	.09	.98	.00	.00	- 8.4	b_4 Aquarii,	26	21.95		.88	.00	.92	.00	.94	-21.6
ρ Aquarii,	13	15.07		.22	.16	.88	.96	.15	- 8.5	λ Andromedæ,	31	6.68		.73	.68	.69	.80	.67	+45.7
γ Aquarii,	14	50.27		.36	.23	.22	.28	...	- 2.0	i Piscium,	33	9.72		.65	.86	.60	.66	.76	+ 4.9
π Aquarii,	18	32.08		.15	.17	.99	.07	.02	+ 0.7	λ Piscium,	35	18.68		.65	.67	.62	.60	.72	+ 1.1
ζ Aquarii,	22	2.00		.96	.06	.00	.98	.04	- 0.7	ψ Andromedæ,	39	29.93		.12	.94	.76	.95	.11	+45.7
α Lacertæ,	25	51.39		.49	.29	.37	.42	...	+49.6	δ Sculptoris,	42	2.71		.64	.78	.77	.72	.61	-28.9
η Aquarii,	28	34.36		.31	.34	.39	.35	.39	- 0.8	ϕ Pegasi,	45	46.50		.45	.55	.53	.49	.51	+18.4
κ Aquarii,	30	55.13		.18	.28	.00	.06	...	- 4.9	ρ Cassiopeiæ,	47	48.15		.22	.11	.12	.01	.29	+56.8
ζ Pegasi,	34	52.73		.78	.77	.64	.67	.79	+10.1	ω Piscium,	52	32.06		.11	.98	.91	.11	.12	+ 6.1
η Pegasi,	36	48.98		.12	.92	.00	.99	.94	+29.5	30 Piscium,	55	11.39		.47	.28	.24	.34	.45	- 6.8
λ Pegasi,	40	10.40		.43	.45	.45	.43	.25	+22.9	2 Ceti,	56	58.61		.61	.47	.77	.50	.64	-18.1
μ Pegasi,	43	38.06		.08	.00	.06	.05	.12	+23.9				.67	.60	.63	...	...		
λ Aquarii,	45	43.43		.34	.49	.47	...	...	- 8.3										
δ Aquarii,	47	38.49		.49	.55	.48	.43	...	-16.5										
α Piscis Aust.,	50	20.96		.89	.01	.05	.00	.87	-30.3										
α Andromedæ,	55	51.15		.99	.13	.18	.22	.18	+41.6										
α Pegasi,	58	11.20		.24	.24	.17	.18	.18	+14.5										
c_2 Aquarii,	23	2	24.29	.27	.29	.24	.32	.35	-21.9										
ϕ Aquarii,	7	28.97		.99	.99	.03	.90	.03	- 6.8										
				.98	.90	...	...	...											

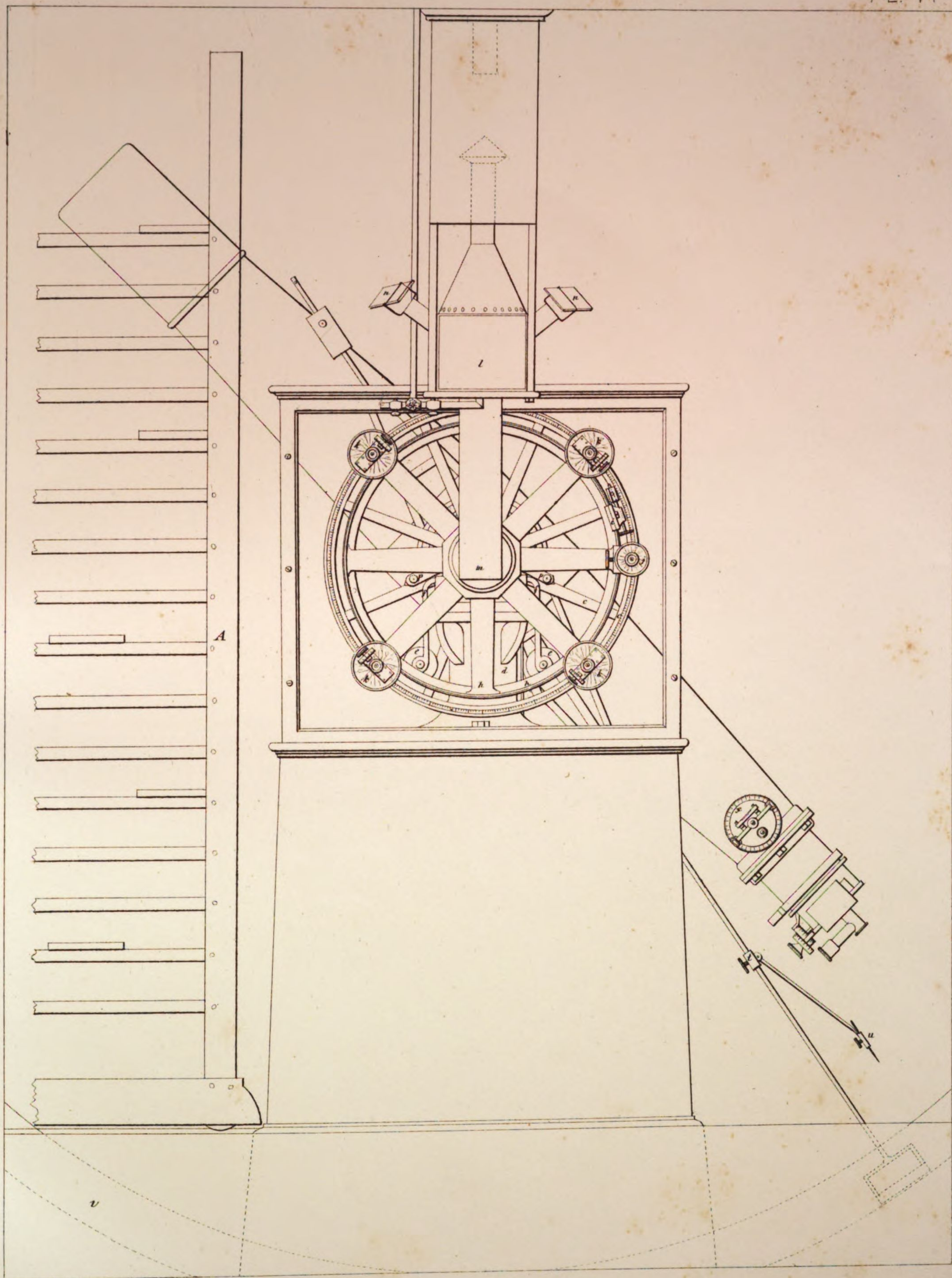




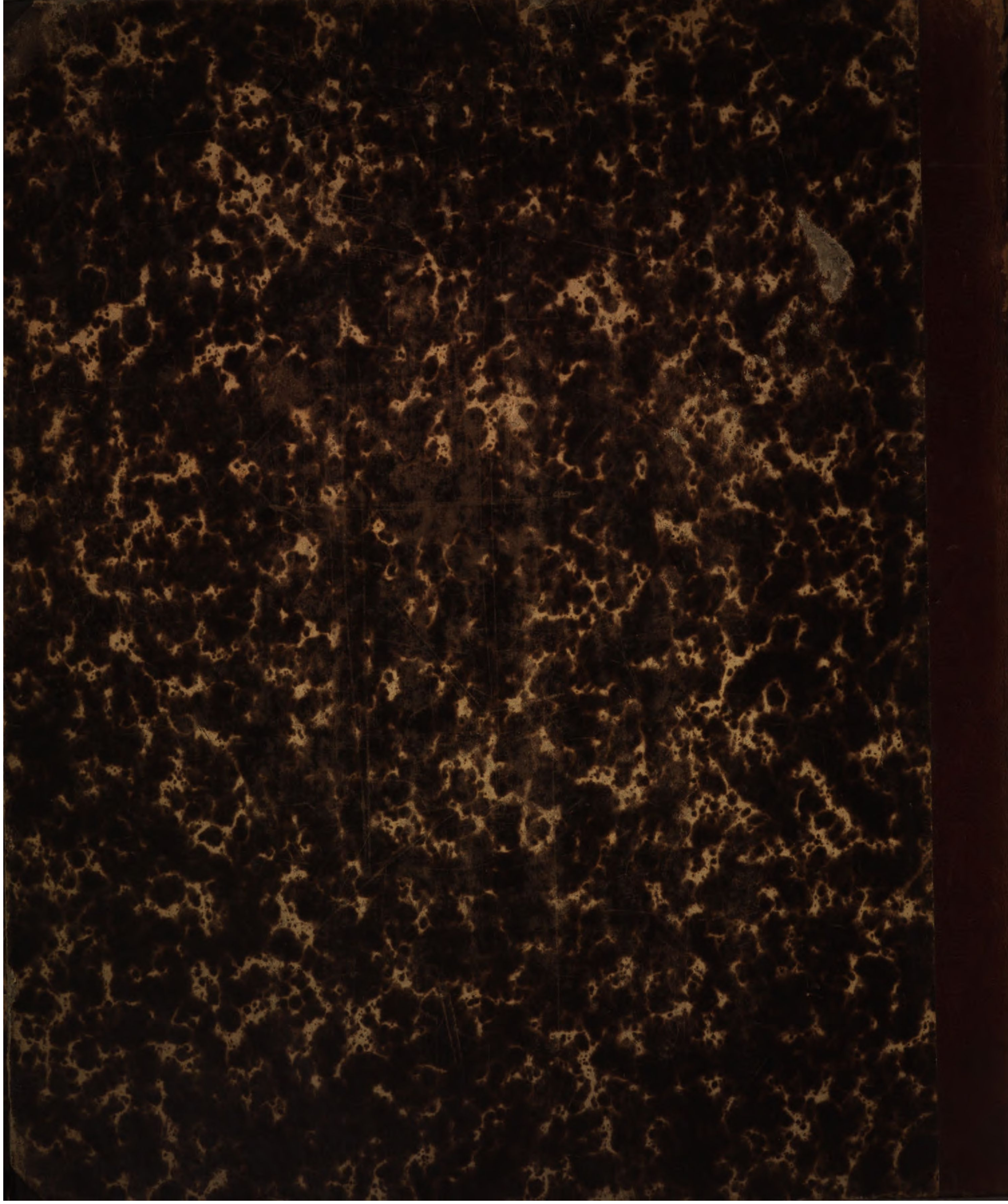
J. H. BOWEN LITH 490 WASH ST BOSTON

MERIDIA





MERIDIAN CIRCLE



Rogers, William Augustus

Observations made with the Meridian Circle during the Years ... under the
Direction of Jos. Winlock and E. C. Pickering by William A. Rogers

Bd.: 1871/1872

Cambridge 1877

4 Eph.astr. 4 m-10

urn:nbn:de:bvb:12-bsb11351313-4